

COUNTY PALATINE OF LANCASTER.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1903.

WITH STATISTICAL INFORMATION
AND SUMMARY OF REPORTS OF DISTRICT
MEDICAL OFFICERS OF HEALTH, &c.

(Presented to the County Council, November 3rd, 1904.)



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PUBLIC HEALTH COMMITTEE

(1904).

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

For the Year ending December 31st, 1903.

*To the Right Hon. the Chairman and Members of the County
Council of the County Palatine of Lancaster.*

GENTLEMEN,

I have the honour to submit my fifteenth Annual Report on the health and sanitary condition of the Administrative County, together with a summary of each Annual Report received from District Medical Officers of Health.

It gives me pleasure to report a further diminution in the death-rate, which for 1903 was lower than in any previously recorded year, the rate being equal to 15·22 per 1,000 of the population, against 15·26 in 1902, and 17·3 the mean of the 10 years 1893-1902. The rate of infant deaths under one year to 1,000 births corresponded to 140, or 1 more than 1902, which was exceptionally low for this County. Owing to the increased prevalence of small-pox, whooping cough and diarrhœa the rate from the principal zymotic diseases (1·62) is not quite so favourable as in 1902, although it was 0·45 less than the mean of the preceding decade.

It is gratifying to observe a further decline in the phthisis death-rate, which corresponded to 0·90, the lowest recorded in this County. In my opinion the reduction is largely due

to sanitary improvements in regard to the homes of the people, and the efforts made in recent years for securing the healthy employment of persons in factories and workshops. Although there has been a satisfactory diminution in the number of deaths from tuberculous phthisis going on during the last few years it must be borne in mind that the disease is still very prevalent, and there is reason to believe that there are at least 5,000 persons now suffering from it in this County. The disease is admittedly capable of prevention, and may be cured if treated sufficiently early. To do this effectually the patient must be removed from the insanitary surroundings which started the disease, and subjected to what is known as the open-air treatment, with pure air, good food, and complete rest of body and mind.

Reports were received from the whole of the 135 County districts : of these 110 were printed, 7 type-written, and the rest in manuscript. The special reports supplied by Medical Officers of Health under Article 18 (16) of the Local Government Board Order, 1891, numbered 159, as compared with 130 in the previous year. These referred chiefly to the occurrence of epidemic disease and contained information concerning the precautionary measures taken, including school closure, disinfection, &c. Monthly returns of deaths and cases of infectious disease notified or ascertained were received from all the County districts except Blackpool (B.), Lancaster (B.), and Little Crosby.

From the Exchequer Contribution Account payments have been made towards the salaries of sanitary officials under Section 24 of the Local Government Act. Claims are now presented by 120 Authorities, *i.e.*, 17 boroughs, 83 urban districts, 19 rural districts, and 1 port sanitary authority. The total payments during the year amounted to £9,298 5s. 6d., of which Medical Officers of Health received £4,199 7s. 2d. and Sanitary Inspectors £5,098 18s. 4d.

At the suggestion of the Board of Agriculture the number of samples purchased for analysis under the Sale of Food and Drugs Acts has increased from 1,550 in 1902 to 2,914 for the year under report. The total prosecutions amounted to 149, convictions 110, with fines varying for offenders similar in character from £20 to 1s., the latter amount being obviously inadequate to restrain those who seek to profit by the adulteration of food.

I am, Gentlemen,

Your obedient servant,

EDWARD SERGEANT,

County Medical Officer of Health.

Preston, October 20th, 1904.

THE COUNTY.

Area and Population.—The year 1903 was marked by the following changes which took place in the constitution of the districts within the Administrative County.—

Bispham-with-Norbreck.—Area in acres 1,346, last census population 985, present estimated population 1,400, rateable value £14,545. Formerly part of the Fylde Rural District, became an Urban District April 15th.

Prestwich.—The City of Manchester on the 9th of November incorporated a portion of this district, representing an area of 673 acres, population 63, and rateable value £1,436 15s. The greater part (656 acres) of the transferred area formed Heaton Park.

Other alterations affecting the area of the Administrative County were made during the year, but the respective Orders do not come into operation until 1904, and consequently do not affect this report, viz. :—

Burnley (R.) ..	{	New township (Sabden) formed (May 27th), necessitating alterations in the areas of these Rural Districts.
Clitheroe (R.)..		
Birkdale ..	{	Township of Ainsdale transferred to Birkdale after Inquiry by County Council, November 12th.
West Lancashire (R).		

The area of the Administrative County has, therefore, sustained a loss as above mentioned of 673 acres, and at the end of the year the total area stood at 1,088,582 acres. In

the Tables I. and III. appended (page 274, *et seq.*) the exact acreage of each district is given. The population according to the estimate of Medical Officers of Health of the districts under report to the middle of 1903, corresponded to 1,853,567, and on this total the various rates are calculated.

Notwithstanding the loss of population sustained by the County, equal to 29,503, since the last census in 1901, the population is now estimated at 26,131 above the enumerated period. It may again be pointed out that the estimate given of the County population is exclusive as far as can be ascertained of the residents of public institutions, situated in the Administrative County, which are used for the reception of persons from districts outside the area.

The districts reported on still number 135. viz., municipal boroughs 20, urban districts 96, and rural districts 19; one new urban district, as already stated, has been created during the year, and one (Garston) ceased to form part of the Administrative County.

Particulars as to area, population, and persons to an acre of the districts under review are given in the following Table :—

	Area in Acres, (per Census Returns).	Population Estimated by Medical Officers of Health, 1903.	Persons per Acre.	Acres per Person.
Municipal Boroughs.....	86,745	627,375	7.23	0.13
Urban Sanitary Districts	275,857	991,787	3.59	0.27
Rural Sanitary Districts	725,980	234,405	0.32	3.09
Administrative County..	1,088,582	1,853,567	1.70	0.58

Births registered in the 135 districts during 1903 amounted to 49,636—in the urban districts 43,783 and in the rural districts 5,853—corresponding to an increase of 106 births as compared with the previous year.

The sex of the children born is given below : —

	Males.	Females.	Total.
Urban Districts.....	22,227	21,556	43,783
Rural Districts.....	3,039	2,814	5,853
Administrative County ...	25,266	24,370	49,636

The birth-rate equalled 26·77 per 1,000 of the population—the urban rate being 27·04 and the rural rate 24·96—and with the exception of 1901 it is the lowest recorded for the County. The rate was only fractionally less than in the previous year, the reduction corresponding to 1·18 in the rural districts, and 0·09 in the urban districts. As compared with the mean of 10 years 1893-1902, the birth-rate was reduced 1·43 in the County, 1·43 in urban, and 1·68 in rural districts. The Registrar General reports that “the birth-rate in England and Wales in 1903 was 28·4 per 1,000 of the population, which is 0·2 per 1,000 below the rate in 1902, and lower than the rate in any year on record ; compared with the average in the 10 years 1893-1902 the birth-rate in 1903 shows a decrease of 1·0 per 1,000.”

The birth-rates (see Tables I. and III., page 274, *et seq*), varied from 43·7 in Haydock, 41·5 Ince-in-Makerfield, 41·1 Abram, 39·2 Prescott, 38·7 Ashton-in-Makerfield, 38·6 Pemberton, 37·6 Aspull, 36·8 Litherland, and 36·7 Skehmersdale, to 17·8 Clitheroe (R.), 17·3 Fulwood, 17·1 Heysham, 16·9

Morecambe (B.), 16·6 Tottington, 16·4 Little Woolton, 15·4 Heaton Norris, 14·4 Wardle, 13·0 Grange-over-Sands, and 4·5 Childwall.

The Table below gives the County birth-rates and those of England and Wales during the years 1893-1903 :—

Districts.	Rate per 1,000 of the Population.										
	1903.	1902.	1901.	1900.	1899.	1898.	1897.	1896.	1895.	1894.	1893.
Administrative County	26·77	26·85	26·57	26·80	27·09	27·62	28·45	28·73	29·82	29·19	30·95
Urban Districts	27·04	26·95	26·78	26·96	27·31	27·89	28·65	29·11	30·23	29·49	31·35
Rural Districts..	24·96	26·14	25·13	25·72	25·53	25·80	27·29	26·62	27·57	27·70	28·94
England and Wales	28·4	28·6	28·5	28·5	29·3	29·4	29·7	29·7	30·3	29·6	30·8

Information has been obtained from 47 districts as to 618 illegitimate births, and 134 or 21·6 per cent. of the infants died before attaining the age of one year as compared with a percentage of 23 in 1902, 30 in 1901, and 33 in 1900. In the whole County the percentage of deaths under one year to the total births was 14·0. The mortality of illegitimates was marked in Aspull, where 7 died out of 19 births, Hindley 31 births 7 died, Lancaster (B.) 55 births 16 died, Leigh (B.) 33 births 21 died, Newton-in-Makerfield 22 births 7 died, and Standish-with-Langtree 11 births 8 died.

Deaths registered in the Administrative County numbered 28,222 or 58 more than last year. The excess of births over deaths amounted to 21,414 against 21,366 in 1902, and 18,816 in 1901. Of the total deaths 14,445 occurred among males—12,784 in urban and 1,663 in rural districts—and 13,777 among females, 12,229 in urban and 1,548 in rural districts. The ages at the time of death were as below :—

Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Total.
6,973	3,417	1,220	1,279	9,298	6,035	28,222

As in 1902, the deaths taken cognisance of by Medical Officers of Health refer to the nett deaths actually belonging to the district, and in accordance with the instructions of the Local Government Board all deaths occurring in public institutions of persons not belonging to the district are excluded. This arrangement allows the exclusion of a large number of deaths from the local statistics, for instance, in the case of Fulwood, 146 workhouse and other deaths are excluded, and from the urban districts of Ormskirk, Wardle, and Withington 63, 189, and 786 deaths respectively are excluded. The death statistics of Preston (R.) and Whiston (R.) do not include 221 and 317 deaths respectively, which mainly occurred in the large asylums situated in those districts. The majority of such deaths belong to County Boroughs, and a small proportion to districts within the Administrative County. These deaths are supposed to be allocated to the districts to which they belong, but, as stated in previous reports, no system is in vogue for securing their correct allocation. It may also be again pointed out that the effect of including in the statistics of local authorities deaths of non-residents *unless occurring in public institutions*, has considerably increased the death-rates of certain much frequented health resorts, for instance, in Blackpool (B.) by the deaths of 121 persons staying temporarily in the town, 76 of whom had been resident less than one month, the rate is 2·0 higher than it otherwise would be, while the rates of Lytham, Morecambe (B.), St. Annes-on-the-Sea, and Southport (B.), are also unduly raised. Dr. Weaver, Medical Officer of Health for Southport states that if the deaths of 85 visitors who came into the town in a more or less moribund condition were deducted the local death-rate would be 13·25 per 1,000 instead of 14·3. The average length of stay of these visitors was about 59 days from the date of their arrival, and varied from just under 12 months, the longest period of residence of any of these visitors before death to one day in other cases.

The following Table gives a statement of County birth and death rates compared with England and Wales :—

	Birth-rate per 1,000 of the population.	Per 1,000 of the Population.		Death-rate from the seven principal Zymotic Diseases.	Rate of Infantile Mortality measured by the proportion of deaths of infants under 1 year to 1,000 births.	
		Urban Death-rate.	Rural Death-rate.			
England and Wales	28·4	*15·4	†14·8	1·46	132	
		15·4				
76 large English Towns. .	29·67	16·3	..	1·89	144	
Administrative County of Lancaster	Urban ..	27·04	15·44	..	1·70	143
	Rural ..	24·96	..	13·69	1·10	114
Urban and Rural Districts combined	26·77	15·22		1·62	140	

* Refers to the 76 great towns and 103 smaller towns.

† Refers to the remainder of the country, including the small urban districts and the rural districts.

The male births again exceeded the female births—for the year under report the excess being equal to 1·81 per cent. ; while the proportion of male deaths was 2·37 per cent. higher than that of the females. The excess of male over female deaths in the urban districts corresponded to 2·21, and in the rural districts 3·59 per cent. In 1902 the urban mortality of males was 1·47 per cent. higher than that of females, and in the rural districts 2·75 per cent.

The death rate for the County was the lowest recorded, and corresponded to 15·22 per 1,000 against 15·26 in 1902,

and 17·3 the mean of the 10 years 1893-1902. In the urban districts the rate was 15·44, equal to an increase of 0·01, as compared with the previous year, and the rural rate of 13·69 gave a diminution of 0·39. It is satisfactory to observe that the County rate was 0·18 lower than the rate for the whole of England and Wales, which the Registrar General gives at 15·4, "the lowest on record." The County death-rates from 1893-1903, as compared with those of England and Wales are tabulated below :—

Districts.	Rate per 1,000 of the Population.										
	1903.	1902.	1901.	1900.	1899	1898.	1897.	1896.	1895.	1894.	1893.
Administrative County	15·22	15·26	16·28	17·19	17·60	16·58	17·48	17·38	19·16	16·16	19·97
Urban Districts	15·44	15·43	16·58	17·46	17·88	16·80	17·82	17·76	19·63	16·42	20·37
Rural Districts..	13·69	14·08	14·21	15·26	15·65	15·09	15·55	15·25	16·57	14·87	17·94
England and Wales.....	15·4	16·3	16·9	18·3	18·3	17·6	17·4	17·1	18·7	16·6	19·2

In 76 large English towns the death-rate was 16·3 per 1,000, in 103 smaller towns 14·6, and in the remainder of the country 14·8. The death-rates of the County districts varied from 24·3 in Prescott, 24·0 Lees, 22·8 Abram, 21·8 Ince-in-Makerfield, 21·2 Aspall, 20·2 Pemberton, 20·0 Skelmersdale, and 20·0 Ashton-under-Lyne (B.), to 10·0 in Heaton Norris, 10·0 Withnell, 9·9 Atherton, 9·8 Great Crosby, 9·7 Waterloo-with-Seaforth, 8·0 Bispham-with-Norbreck, 7·3 Little Woolton, and 4·5 Childwall.

Infantile Mortality.—The County rate of deaths under one year to 1,000 births was equal to 140, or 1 more than the unusually favourable infant rate of the previous year. In the urban districts the rate averaged 143, exactly the same as in 1902, and in rural districts 114, showing a reduction of 2. During the decade 1893-1902, the infant rate averaged 161 in the whole County, 166 in the urban districts,

and 126 in the rural districts. This reduction of the death-rate is satisfactory, for it means that 1,000 more children survived the first year of life than would be the case if the mean rate for the past decade had continued, and no doubt with the saving of life there has been a vast diminution of infantile sickness of greater or less severity. The infant mortality for the whole of England and Wales was only 132, or 8 below the rate for the Administrative County, but the Registrar General reports that "with the single exception of a rate of 130 per 1,000 births in 1881, it is the lowest rate on record, and is 22 per 1,000 below the mean for the 10 years 1893-1902." The County infantile rates compared with those of England and Wales 1893-1903 are given in the Table below :—

Districts.	Deaths of Children under 1 Year to 1,000 Births.										
	1903.	1902.	1901.	1900.	1899.	1898.	1897.	1896.	1895.	1894.	1893.
Administrative County	140	139	161	162	175	168	169	155	171	134	177
Urban Districts	143	143	167	167	181	173	174	161	178	138	183
Rural Districts..	114	116	118	123	134	130	138	121	127	109	145
England and Wales.....	132	133	151	154	163	161	156	148	161	137	159

In the following districts high infant rates prevailed, viz., Lees 247, Skelmersdale 236, Little Lever 234, Farnworth 211, Abram 207, Prescott 204, Ashton-under-Lyne (B.) 200, Gorton 199, Norden 195, Kearsley 192, Leigh (B.) 191, Aspull 183, Pemberton 182, and Chadderton 181, while the rates were low in St. Annes-on-the-Sea 66, Upholland 64, Longridge 63, Garstang (R.) 59, Poulton-le-Fylde 59, Withnell 58, Tottington 57, Turton 55, Trawden 53, Croston 51, and Childwall nil.

Several reports contain special reference to the conditions which have most actively contributed to the causation of excessive infant death-rates. That much of the loss of life

among infants which annually takes place in this County is preventible there can be no doubt, and it gives satisfaction to observe that the effect of the sanitary improvements carried out during recent years are now becoming apparent in lowered rates. The difference between the infant deaths in Lancashire urban and rural districts, equal to 29 per 1,000 births in favour of the latter, indicates a great discrepancy which ought to be removed, and this can be done by more closely imitating the healthy habits and environment of country life. Unless infants are suitably clothed and fed properly, with due attention to cleanliness of the person and home surroundings, they either succumb outright or become weaklings often devoid of the physical stamina necessary for a useful existence. Sanitary authorities are becoming more alive to the dangers which young children incur, and with the object of alleviating them have made (*a*) provision for the sale of sterilised and humanised milk (Ashton-under-Lyne (B.), appointed (*b*) female inspectors for visiting the houses of the poorer classes, and giving instruction as to the care of children, for instance at Ashton-under-Lyne (B.), Kearsley, Lancaster (B.), and Westhoughton, and issued (*c*) printed instructions on these subjects which are reported to have had already a beneficial effect.

The following opinions expressed by district Medical Officers of Health, are of much interest in regard to infant mortality :

Ashton-under-Lyne (B.).—Dr. Hughes says:—"A very large proportion of this mortality is due directly or indirectly to improper feeding, but there are many other contingencies, such as poverty, insanitary conditions, &c."

Audenshaw.—"If mothers would pay more attention to the cleanliness and proper feeding of children the number of deaths would be further reduced."

Bacup (B).—The infantile mortality is fairly satisfactory for a manufacturing town. Many of the deaths, Dr. Brown says, "are due to ignorance in regard to feeding and clothing, also to early marriage, low vitality, want of cleanliness, exposure, especially taking infants out of warm beds at early hours in the morning to place out to nurse, whilst the mothers go to the mills."

Blackpool (B).—An analysis of the cause of deaths of infants suggests that in some cases the cause is partly neglect and partly wrong feeding. To counteract this evil it is suggested that a thoroughly qualified female inspector be appointed, whose duties would be to visit the homes of the poorer classes, to instruct ignorant parents as to proper methods of infant feeding and the care of children, and to warn careless mothers as to the dangerous results of neglect.

Clayton-le-Moors.—Dr. Tattersall, in reporting on the infantile mortality, says:—"bad nursing, carelessness, and wilful negligence as to proper feeding and clothing are responsible for this high rate. The homes of the children in a great number of cases are anything but clean, and the foul smells arising from dirt and insufficient ventilation contribute to the spread of illness."

Darwen (B).—The Medical Officer of Health impresses upon the Council the advisability of exercising some powerful influence over the burial of "still-born" children. He suggests registration and post-mortem examinations, which would act as a strong deterrent against any practice which may directly or indirectly have an influence on the life of a child.

Farnworth.—The excessive infant mortality which has prevailed in this district for the past nine years, Dr. Kershaw believes will continue "so long as children are fed on unsuitable food, for it is not only the direct cause of many deaths, but those who survive become so weakened by it that they

readily fall a prey to bronchitis, diarrhœa, whooping cough, and other diseases. It is no uncommon thing to find children a few months old being fed on bread, potatoes, bacon, etc.”

Newton-in-Makerfield.—The increase in the infant rate is attributed partly to the distress which occurred in the latter part of the year, but more particularly to want of better knowledge in the care of young children both in health and disease, especially as regards feeding.

Radcliffe.—The infant mortality is the lowest recorded for this district; no doubt the absence of summer heat has been a factor in producing the fall. Dr. Gill reports that with the increasing facilities for instruction in nursing, mothers are becoming more alive to their duties, and are more ready than formerly to supply their infants with food suitable for their age.

Whitworth.—Some of the infant mortality is undoubtedly caused by undue exposure and unsuitable clothing, but improper feeding is one of the most potent factors in raising the mortality. This is not necessarily due to want of food, but it is from want of proper food administered in a judicious manner, and due chiefly to the erroneous ideas which prevail amongst the industrial classes on the subject of infant food.

Bury (R.).—Dr. Cook says, “as was the case last year, a marked feature of the infantile deaths is the large number of premature births and congenital weakness, equalling 39 per cent. of the total deaths under one year of age. This is undoubtedly due to the large amount of woman labour in the mills, but under proper precautions the evil might be largely mitigated, and until something is done in this direction we cannot look for much decrease in the infantile mortality.”

The Seven Principal Zymotic Diseases viz., small-pox, measles, scarlet fever, diphtheria and membranous croup, whooping cough, fever, and diarrhœa, gave rise to

3,016 deaths, or 10·6 per cent. of the total deaths from all causes, against a percentage of 9·9 last year, 12·7 in 1901, 12·6 in 1900, 13·5 in 1899, and 11·4 in 1898. As compared with 1902, there was an excess of 46 deaths from small-pox, 42 from measles, 142 from whooping cough, and 228 from diarrhoea, and a reduction in scarlet fever of 24 deaths, diphtheria and membranous croup 194 deaths, and fevers 25 deaths. The following Table gives the zymotic death-rates for 1903, compared with the 10 years 1893-1902.

Year.	ANNUAL DEATH-RATE PER 1,000.							
	Seven Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria and Membranous Croup.	Whooping Cough.	"Fever" (Typhoid, Typhus, & Continued Fever).	Diarrhoea.
1893	2·85	0·04	0·58	0·32	0·13	0·25	0·28	1·21
1894	1·49	0·02	0·23	0·27	0·12	0·29	0·22	0·32
1895	2·42	0·009	0·50	0·23	0·10	0·38	0·23	0·95
1896	1·94	0·005	0·49	0·24	0·09	0·36	0·23	0·48
1897	2·14	nil.	0·66	0·15	0·08	0·27	0·19	0·77
1898	1·89	0·0005	0·25	0·10	0·07	0·19	0·26	1·00
1899	2·37	0·0005	0·44	0·18	0·18	0·26	0·24	1·05
1900	2·07	0·0015	0·43	0·18	0·26	0·37	0·20	0·60
1901	2·07	nil.	0·18	0·18	0·34	0·20	0·20	0·95
1902	1·51	0·0119	0·35	0·20	0·30	0·19	0·16	0·28
Average 10 years	2·07	0·0088	0·41	0·20	0·16	0·27	0·22	0·76
1903	1·62	0·0366	0·37	0·18	0·19	0·26	0·15	0·40

* Membranous Croup included for the first time.

The County rate corresponded to 1·62, as compared with 1·51 in the previous year, while the urban rate was 1·7 and the rural rate 1·1. The Registrar General gives the zymotic rate for England and Wales at 1·46, and 1·89 for the 76 great English towns. The Tables I. and III. appended contain

the zymotic rate for each of the County districts, and below are tabulated the death-rates for the seven principal zymotic diseases for the year under review :—

	ANNUAL DEATH-RATE PER 1,000.							
	Seven Principal Zymotic diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria and Membranous Croup.	Whooping Cough.	"Fever" (Typhoid, Typhus, & Continued Fever).	Diarrhœa.
Administrative County of Lancaster	1·62	0·036	0·37	0·18	0·19	0·26	0·15	0·40
Urban Sanitary Districts	1·70	0·033	0·41	0·19	0·20	0·27	0·15	0·42
Rural Sanitary Districts.....	1·10	0·055	0·08	0·13	0·18	0·19	0·15	0·26
England and Wales..	1·46	0·02	0·27	0·12	0·18	0·27	0·10	0·50

It is interesting to observe that the total zymotic rate was 0·45 less than the mean of the 10 years 1893-1902, and with the exception of 1894 (1·49) and last year (1·51) it was the lowest recorded. In the following districts the zymotic rates were exceptionally high, viz. :—Preseot 5·60, Aspull 5·12, Pemberton 4·91, Ince-in-Makerfield 4·87, Leigh (B.) 4·83, Abram 4·72, Atherton 4·13, Blackrod 3·84, Little Lever and Lees each 3·82, Golborne 3·42, Ashton-in-Makerfield 3·26, Kearsley 3·19, and Haydock 3·07, while the rates were low in Waterloo-with-Seaforth and Litherland each 0·47, Poulton-le-Fylde 0·44, Adlington 0·43, Lancaster (R.) 0·33, Carnforth 0·32, Whitworth 0·30, Withnell and Leyland each 0·28, St. Annes-on-the-Sea and Great Crosby each 0·24, Longridge and Morecambe (B.) each 0·23, and in

Little Woolton, Little Crosby, Grange-over-Sands, Childwall, and Allerton no zymotic deaths were recorded.

Small-pox.—During the year the outbreak of this disease attained its maximum when 1,156 persons came under observation, the highest number since the formation of the County Council, and altogether 68 deaths were recorded. The following Table gives the cases and deaths which have taken place since 1890, and it will be noted that the previous epidemic of small-pox was most accentuated just 10 years ago :—

Year.	Cases.	Deaths.	Year.	Cases.	Deaths.
1890....	1	None.	1897....	3	None.
1891....	2 ....	..	1898....	6	1
1892....	612	70	1899....	16	1
1893....	1038	84	1900....	59	3
1894....	259	25	1901....	6	None.
1895....	100	19	1902....	436	22
1896....	83	10	1903....	1156	68

The monthly incidence of the disease as given below, shows that the greatest severity was experienced in the first six months of the year, when 896 cases and 55 deaths occurred, while for the rest of the year the cases and deaths had fallen to 260 and 13 respectively.

1st Quarter			2nd Quarter.			3rd Quarter.			4th Quarter.		
Cases. Deaths.			Cases. Deaths.			Cases. Deaths.			Cases. Deaths.		
Jan.	142	8	April	180	12	July	65	2	Oct.	26	2
Feb.	146	5	May	142	4	Aug.	46	3	Nov.	18	2
Mar.	178	15	June	108	11	Sep.	67	3	Dec.	38	1
<hr/>			<hr/>			<hr/>			<hr/>		
466 28			430 27			178 8			82 5		

The districts affected with small-pox as given in the sub-joined Table, numbered 100 (88 urban and 12 rural), against 54 districts last year and 3 in 1901.

DISTRICT.	No. of Cases.	No of Deaths	DISTRICT.	No. of Cases.	No. of Deaths
URBAN.			<i>Brought forward ..</i>	766	38
Accrington (B.)	43	1	Moss Side	7	..
Ashton-in-Makerfield	3	1	Much Woolton	3	..
Ashton-under-Lyne (B.)..	150	3	Nelson (B.)	14	..
Aspull	9	..	Newton-in-Makerfield ..	2	..
Atherton	3	..	Norden	1	..
Audenshaw	1	..	Ormskirk	7	..
Bacup (B.)	43	..	Orrell	13	1
Billinge	1	..	Oswaldtwistle	2	..
Birkdale	8	..	Padiham	26	1
Blackpool (B.)	22	3	Pemberton	15	2
Blackrod	2	..	Prescot	*	1
Brierfield	6	..	Prestwich	3	2
Chadderton	46	3	Radcliffe	16	1
Chorley (B.)	42	..	Rainford	1	..
Church	4	1	Ramsbottom	11	1
Clayton-le-Moors	1	..	Rawtenstall (B.)	37	1
Clietheroe (B.)	1	..	Royton	15	1
Colne (B.)	16	..	St. Annes-on-the-Sea...	3	..
Crompton	74	5	Southport (B.)	9	1
Croston	1	..	Stretford	13	1
Darwen (B.)	27	1	Swinton & Pendlebury..	6	..
Denton	6	..	Tottington	9	1
Droylsden	4	..	Tyldesley-w-Shakerley..	1	..
Eccles (B.)	14	2	Ulverston	1	..
Failsworth	8	2	Upholland	1	..
Farnworth	25	2	Urmston	1	..
Gorton	11	2	Walton-le-Dale	5	1
Great Harwood	1	..	Wardle	4	..
Haslingden (B.)	23	2	Waterloo-with-Seaforth.	6	..
Haydock	2	..	Westhoughton	4	..
Heaton Norris	4	..	Whitefield	3	1
Heysham	9	3	Whitworth	14	..
Heywood (B.)	48	2	Widnes (B.)	12	1
Hindley	3	..	Withington	14	..
Horwich	2	..	Withnell	1	..
Hurst	7	..	Worsley	1	..
Ince-in-Makerfield	4	..			
Kearsley	1	..	RURAL.		
Kirkham	1	..	Blackburn	5	1
Lancaster (B.)	25	1	Burnley	18	1
Lees	3	..	Bury	10	..
Leigh (B.)	5	..	Chorley	4	..
Levenshulme	4	..	Fylde	3	2
Litherland	10	..	Garstang	1	..
Littleborough	1	..	Leigh	2	..
Little Hulton	1	..	Linchurst	13	..
Little Lever	1	..	Limesdale	3	1
Longridge	1	..	Sefton	24	3
Lytham	2	..	West Lancashire	15	2
Middleton (B.)	31	4	Whiston	11	3
Milnrow	2	..			
Morecambe (B.)	1	..			
Mossley (B.)	3	..			
			TOTAL	1156	68
<i>Carried forward ..</i>	766	38	<i>*Case reported last year.</i>		

The death-rate from small-pox corresponded to 0·036 per 1,000 of the County population, as compared with 0·011 last year, and the percentage of deaths to persons attacked, equal to 5·8, rose fractionally. For England and Wales the small-pox death-rate was 0·02. Information was obtainable concerning 1,141 cases as tabulated below, and it will be seen that among the vaccinated the case rate of mortality at all ages was 4·2 per cent., against a percentage of 10·8 among the unvaccinated and persons showing no signs of vaccination.

Age	Vaccinated.			Unvaccinated or Doubtful.			Total.		
	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.
0-5 years ...	11	...	...	55	10	18·1	66	10	15·1
5-10 „ ...	16	...	...	89	5	5·6	105	5	4·7
10-15 „ ...	22	...	...	57	3	5·2	79	3	3·7
15-20 „ ...	69	...	...	16	...	...	85	...	...
20-25 „ ...	97	1	1·0	13	1	7·6	110	2	1·8
25-35 „ ...	239	3	1·2	23	4	17·3	262	7	2·6
35-45 „ ...	201	8	3·9	21	3	14·2	222	11	4·9
45-55 „ ...	121	12	9·9	9	2	22·2	130	14	10·7
55-65 „ ...	46	4	8·6	10	2	20·0	56	6	10·7
65 years & over..	23	8	34·7	3	2	66·6	26	10	38·4
All ages ...	845	36	4·2	296	32	10·8	1,141	68	5·9

Persons protected by primary vaccination under the age of 20 escaped death entirely after attack, while those of the same age not protected by vaccination suffered a case mortality equal to 8·2 per cent. Experience shows, as stated in a memorandum issued by the Local Government Board (July, 1902), that the protection which is afforded by primary vaccination in infancy should be renewed therefore as a matter of regular system by re-vaccination, at least at the approach of puberty, and earlier in the case of children whose marks of primary vaccination are few, small, or indistinct.

The Special Committee appointed by the Metropolitan Asylums Board (who control the small-pox hospitals in London) to collect statistics relating to the great small-pox epidemic of 1870-72, reported as follows :—“The necessity of re-vaccination, when the protective power of the primary vaccination has to a great extent passed away, cannot be too strongly urged. No greater argument to prove the efficacy of this precaution can be adduced than the fact that out of upwards of 14,800 cases received into the hospitals, only four well authenticated cases were treated in which re-vaccination had been properly performed, and these were light attacks. Further conclusive evidence is afforded by the fact that all the nurses and servants of the hospitals, to the number at one time of upwards of 300, who are hourly brought into the most intimate contact with the disease, who constantly breathe its atmosphere, and than whom none can be more exposed to its contagion, have, with but few exceptions, enjoyed complete immunity from its attacks. These exceptions were cases of nurses or servants whose re-vaccination in the pressure of the epidemic was overlooked, and who speedily took the disease; and one case was that of a nurse, who, having had small-pox previously, was not re-vaccinated, and took the disease a second time.”

Of the precautionary measures vaccination was mostly relied on, and numerous examples of its protective influence are contained in the district reports. Hospital isolation was available for 97 per cent. of the cases, and those left at home were as a rule too ill for removal, or proved rapidly fatal. As usual great care was taken to quarantine “contacts,” and secure their vaccination or re-vaccination, and due regard was paid to the various methods of obviating the spread of infection.

The dissemination of small-pox has again been mainly attributable to vagrants, and there is abundant evidence to

show that they are a constant menace to society. As pointed out in previous reports, such persons ought to be under the control of sanitary authorities, who should have power to vaccinate or re-vaccinate if necessary, to detain for quarantine purposes, and in case of "suspects" to secure cleanliness and freedom from danger. In the following districts tramps have been responsible for introducing small-pox :—

Bacup (B.).—Cases attributed to tramping pedlars going from house to house whilst in a contagious state, due to ambulatory small-pox.

Blackpool (B.).—In January, a man who had tramped from North Wales was found to be suffering from the disease. In February, a gipsy family arrived from Liverpool, one of whom was attacked, and afterwards found to have been in contact with a small-pox case in the town mentioned. This case was concealed and only discovered when five further attacks came under notice.

Chorley (B.).—The disease was, on several occasions, introduced into the borough by vagrants and tramps, but in the great majority of instances the attacks resulted from undiscovered cases.

Darwen (B.).—Small-pox, which appeared at the close of the year, spread from the common lodging-houses as a centre.

Gorton.—The first case was introduced in April by a brickfield labourer employed in Manchester, who is supposed to have been infected by tramps who slept in the brick-kilns where the man worked.

Lancaster (B.).—In four instances the disease was introduced by tramps who, whilst in the vagrant ward of the workhouse, were discovered to be suffering from small-pox. In seventeen cases the infection was introduced into the town by the visits of one or more persons to the Heysham harbour works, where cases of small-pox at that time

existed. The Medical Officer of Health states that "his experience with small-pox points to the necessity of re-vaccinating and controlling the movements of tramps and a certain class of navvies, who practically belong to the same category by never working more than a few days in any one place. Compulsory re-vaccination is urgently called for, administered in such a manner that these persons shall not escape the operation, as they are at present enabled to do by their migratory habits."

Measles was the cause of 695 deaths, as compared with 653 last year, 332 in 1901, 857 in 1900, 862 in 1899, and 486 in 1898. The County death-rate corresponded to 0·37, in the urban districts 0·41, and in the rural districts 0·08. The rate for the whole of England and Wales averaged 0·27, and in 76 of the great English towns 0·36. The County rate was 0·02 higher than its predecessor, and 0·06 below the mean of the ten years 1893-1902. The incidence of measles is given below of 673 deaths from districts making monthly returns :—

1st Quarter.	2nd Quarter.	3rd Quarter	4th Quarter.
January ... 34	April 58	July..... 40	October ... 42
February.. 32	May 87	August.... 39	November. 69
March..... 69	June 59	September. 19	December.125
<u>135</u>	<u>204</u>	<u>98</u>	<u>236</u>

The deaths were numerous during the second and fourth quarters, and, as usual, chest affections—bronchitis, or pneumonia—frequently gave rise to fatal results. Mothers should always bear in mind the possibility of such complications when nursing children stricken with measles.

In 48 districts there were no deaths from measles as compared with 36 districts last year, 71 in 1901, and 39 in 1900. The following districts experienced the highest death-rates from the disease :—Leigh (B.) 2·54, Aspull 2·38, Hurst 1·67, Ince-in-Makerfield 1·65, Prescot 1·65, Abram 1·52, Little Lever 1·52, Baeup (B.) 1·33, Pemberton 1·33, Failsworth 1·17, Thornton 1·13, Ashton-under-Lyne (B.) 1·1, Hindley 1·09, and Newton-in-Makerfield 1·07.

The Medical Officer of Health of Aspull reports that “it is a difficult matter to limit the spread of measles, owing to the fact that it is not notifiable, and that it is looked upon by parents as inevitable and concomitant of childhood.” Dr. Marsh (Atherton) recommends “the compulsory notification of the *first* case occurring in a house.” and the Medical Officers of Health of Eccles (B.) and Heywood (B.), suggest that some arrangement as to notification should be made with the school authorities : while Dr. Watkins (Newton-in-Makerfield) and Dr. Barr (Rishton) recommend their authorities to include measles among the ordinary notifiable diseases. Opinions differ widely as to the value of notification of measles, and while it has been discontinued after trial in certain districts it is still in operation in Blackpool (B.), Southport (B.), Standish-with-Langtree, Thornton, and Lunesdale (R.).

As showing how largely schools were implicated in the dissemination of measles, it may be mentioned that in 46 districts schools were closed in consequence of this disease—occurring chiefly among infants. Of the deaths from measles, 170, or 24·4 per cent., were under the age of one year, 492, or 70·8 per cent., one year old or under 5, and 33, or 4·7 per cent., 5 years old or upwards. It will be seen that infants under 5 years of age are very susceptible to measles, and this susceptibility decreases with increasing years. At school young children from 3 to 5 years of age incur great risk of infection, not only of measles, but of whooping cough and

scarlet fever, and no doubt an immense loss of life takes place from this cause far out of proportion to any educational advantage that may be attained—in fact many persons competent to judge say that children commencing school at the age of 5 outstrip those who commence at an earlier age. Under the bye-laws approved by the Board of Education, infants under the age of 5 are not required to attend school, but the Government grant is paid for the attendance of children over 3 years. In preference to the danger and expense incurred in the education of infants it would to my mind be preferable to establish public crèches for the care of young infants whom parents send to school in order to be relieved of responsibilities.

Scarlet Fever gave rise to 10,182 cases notified, and 350 deaths, as compared with 9,153 cases and 374 deaths last year. 8,767 cases and 334 deaths in 1901, 9,931 cases and 356 deaths in 1900, and 8,205 cases and 351 deaths in 1899. The County rate was equal to 0·18 per 1,000 of the population, 0·19 in urban districts and 0·13 in rural districts. In the preceding year the County rate was 0·20, the same in urban districts, and 0·19 in rural districts. The rate for England and Wales corresponded to 0·12, and in 76 great English towns 0·14. The monthly incidence in the districts making returns is given below :—

1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.		
Cases. Deaths.			Cases. Deaths.			Cases. Deaths.			Cases. Deaths.		
Jan.	934	32	April	804	29	July	723	28	Oct.	766	28
Feb.	806	21	May	870	37	Aug.	584	13	Nov.	809	23
Mar.	746	18	June	777	22	Sept.	727	16	Dec.	838	34
2486 71			2451 88			2034 57			2413 85		

Table, page xxii., shows the annual rates of mortality from scarlet fever for 10 years 1893-1902. Compared with 1903 the percentage of deaths to cases notified was lower than in any previous year, viz., 3·4 against 4·0 last year, 3·8 in 1901, 3·5 in 1900, and an average of 4·7 for the 10 years 1893-1902. The mildness of the disease proved to be one of the chief causes of its wide prevalence, and frequent mention is made of the danger to the community of children suffering from unrecognised attacks associating with the healthy in school and other public places. Dr. Hitchon (Heywood B.) refers to many cases being overlooked by their parents, and being allowed to mix freely with other children and attend school. Ince-in-Makerfield.—An inspection of the schools revealed the fact that several children were attending whilst in the “peeling” stage. Westhoughton.—In several cases scarlet fever was so mild that they were only discovered whilst “peeling” at school, and a large number of attacks sprang from one of these. Whitworth.—The disease was so mild that many of the attacks were difficult to diagnose, and, in some, notification was deferred until desquamation revealed the true character of the sickness. Withington.—In several instances the mildness of attack was responsible for the spread of the disease, as the first case was not recognised until others had been infected. Similar experiences are mentioned in the reports received from the rural districts of Leigh, Whiston, and Ulverston. The prevalence of scarlet fever was most marked in the following districts :—

	Cases.	Deaths.	Removals to Hospital
Abram	109	6	0
Acerington (B.)	275	21	0
Ashton-in-Makerfield	257	9	91
Aspull	137	3	5
Atherton	195	6	59
Racup (B.)	115	7	0
Birkdale	148	6	72

	Cases.	Deaths.	Removals to Hospital.
Blackpool (B.)	257	9	242
Chorley (B.)	214	6	192
Colne (B.)	150	8	0
Eccles (B.)	139	3	31
Farnworth	334	11	273
Gorton	132	2	34
Horwich	116	6	0
Ince-in-Makerfield	210	8	21
Lancaster (B.)	188	3	125
Lathom and Burscough.....	122	2	31
Leigh (B.)	414	17	190
Litherland	131	1	31
Moss Side	131	6	80
Nelson (B.)	210	10	0
Pemberton	363	15	0
Radcliffe	129	5	10
Southport (B.)	162	7	121
Swinton and Pendlebury	298	8	26
Tyldesley-with-Shakerley ...	434	15	138
Waterloo-with-Seaforth	149	1	82
Westhoughton	130	7	0
Widnes (B.)	231	7	156

As a precautionary measure for curtailing the spread of scarlet fever hospital isolation has been relied on to a greater extent than in previous years, although it is still imperfectly carried out, and consequently of less value than it otherwise would be. Altogether the removals amounted to 2,913, equal to 28·6 per cent. of the total cases notified, while last year the percentage removed was 25·92, and, in 1901, 23·54. The highest percentages of removals are reported from Golborne and Heysham each 100, Blackpool (B.) 94, Chorley (B.) 89, Morecambe (B.) 88, Bispham 83, Farnworth 81, St. Annes 77, and Southport (B.) 74. No removal took place for scarlet

fever, although extensively prevalent in the following districts, viz., Accrington (B.) 275 cases with 21 deaths, Colne (B.) 150 cases 8 deaths, Nelson (B.) 210 cases 10 deaths, and Pemberton 363 cases 15 deaths. School closure was put into operation in 17 of the County districts on account of outbreaks of this disease.

Whooping Cough was credited with 493 deaths (urban 444 and rural 49), as compared with 351 last year, 378 in 1901, and 727 in 1900. The death-rate rose from 0·19 in the County last year to 0·26, the comparison being more favourable in regard to the past decade for the County (0·27) and the average of England and Wales (0·27). From the districts supplying monthly returns it appears that in the first quarter the disease was least fatal with 92 deaths, then the third quarter with 97 deaths, the second with 117 deaths, and the fourth with 135 deaths proving most fatal. The fatalities were most numerous in the following districts:—Ashton-in-Makerfield 10, Ashton-under-Lyne (B.) 29, Atherton 21, Blackpool (B.) 20, Chadderton 20, Chorley (B.) 14, Golborne 18, and Leigh (B.) 33. Schools were closed in consequence of outbreaks in two districts, viz., Clitheroe (B.) and Preston (R.). The only district in which whooping cough is notifiable is Southport (B.). Dr. Coutts (Blackpool B.) presented to the Sanitary Committee tabulated replies from 45 districts in the country, along with a memorandum as to the notification of whooping cough, and it was decided “for the present not to recommend compulsory notification of this disease, but to attempt to obtain notification from the school authorities and from boarding houses.”

Diphtheria and Membranous Croup showed a gratifying decrease as compared with previous years. The total notifications numbered 2,134 with 369 deaths, against 2,833 cases and 563 deaths in 1902 and 3,242 cases and 636 in 1901. The County rate averaged 0·19 per 1,000 of the population, in

urban districts 0·20, and rural districts 0·18, the rate for England and Wales was 0·18, and 0·20 for 76 great English towns. The County average since 1899 when membranous croup was included under the same heading as diphtheria corresponded to 0·27. Table V. (page 299 in the appendix) gives the number of cases reported monthly, and it will be seen that the first quarter had the largest proportion, same as last year, the second and third quarters came next in the number of cases, and the fewest occurred in the last quarter. The attacks were most numerous in the following districts, viz. :—

	Cases	Deaths	Removals to Hospital.
Ashton-in-Makerfield	40	5	2
Blackpool (B.)	40	7	0
Clitheroe (B.)	60	16	0
Eccles (B.)	127	23	77
Haslingden (B.)	50	5	0
Heywood (B.)	56	8	0
Ince-in-Makerfield	52	11	0
Moss Side	43	10	18
Newton-in-Makerfield	40	6	0
Swinton and Pendlebury . . .	82	11	5
Turton	55	10	0
Ulverston	96	5	55
Waterloo-with-Seaforth	42	3	16
Barton-upon-Irwell (R.)	67	12	23

In 41 districts not a single death was recorded from diphtheria or membranous croup. Schools were closed in 8 districts in consequence of these allied diseases, viz., Clitheroe (B.) Eccles (B.), Ince-in-Makerfield, Ramsbottom, Turton, Ulverston, Barton-upon-Irwell (R.), and Fylde (R.). No doubt personal contact in schools has an important influence in the dissemination of diphtheria, and when children in attendance suffer from sore throat in any form suspicion should be aroused and a medical man should be deputed to take “swabs” of

throat secretion for examination by an experienced bacteriologist. Recognised cases should at once receive hospital isolation, and before discharging a diphtheria patient from the hospital or removing quarantine restrictions when a patient is treated at home, the authority should always be satisfied by bacteriological examination that the throat and nose are free from the specific (Klebs-Löffler) bacillus.

In carrying out house disinfection many authorities rely on formalin spray or formalin fumigation, and school rooms are similarly treated, the books being spread out open so as to secure fumigation, while the floors, furniture, slates, &c., are well washed with soap and water, and afterwards the rooms are thoroughly aired. For disinfection of clothing, bedding, &c., a superheated steam apparatus is essential. Anti-diphtheritic serum has been supplied in several districts free of cost, for instance, Denton, Heywood (B.), Leigh (B.), &c.

The following extracts from reports of Medical Officers indicate some of the ways by which it is thought the propagation of diphtheria may be influenced :—

Clitheroe (B.). The disease spread from one district to another through the medium of the schools, and then locally from house to house. Very probably the chief cause was the common occurrence of school children drinking direct from an ordinary tap which, Dr. Barker reports, “is an ideal method of propagating any throat affection. Had the town possessed an infectious disease hospital, in which the earliest cases might have been thoroughly isolated, this wide-spread epidemic with its resultant loss of 16 lives, might have been averted.”

Huyton-with-Roby. Some of the diphtheria cases were attributed to the emptying of ashpits and allowing the contents to stand for some time close to the doors of the houses, the soil consequently became polluted, and in the hot weather offensive.

Ashton-in-Makerfield. Dr. Hannah attributed an outbreak of 40 cases with 5 deaths in the first quarter to defective sanitary arrangements at one of the schools. These defects were completely remedied by thorough reconstruction on modern lines.

Turton. In one of the fatal cases of diphtheria the cause was suspected to be due to playing on a refuse heap, and collecting little playthings from the rubbish.

Ulverston. Dr. Patterson believes the main factor in the spread of the infection in his district has been the contact of children during school attendance.

Barton-upon-Irwell (R.). About 25 cases of diphtheria broke out among children attending a certain infant school, and were thought to be due to personal contact at a concert at which an unrecognised case was present. An extraordinary case occurred on October 10th when an adult, while suffering from sore throat for which she was sucking lozenges, paid a visit to another house and *took a lozenge out of her mouth and put it into that of a boy*. Two days later the woman was certified to be suffering from diphtheria. On the third day the boy was also found to be affected with the same disease, and in this case the illness had a fatal termination.

Fever—including typhus, enteric fever, also known as typhoid fever, and other continued fever—caused altogether 1,525 cases and 284 deaths. Of these typhus fever was responsible for 6 cases 3 deaths as compared with 10 cases 3 deaths last year; enteric fever 1,479 cases and 277 deaths, and continued fever 40 cases 4 deaths. The “fever” death-rate per 1,000 of the population was 0·15 for the County and the same for the urban and rural districts, 0·10 for the whole of England and Wales, and 0·12 for 76 great English towns. The County average was 0·22 for the 10 years 1893-1902, and it is satisfactory to note that the County rate for the year under review is the lowest recorded. From enteric fever alone there

was a diminution as compared with year preceding of 266 cases and 32 deaths, and with 1901 of 615 and 87 deaths. The ease mortality or proportion of deaths to cases was equal to 18·6 per cent. as against 16·9 in the previous year, 17·1 in 1901, and an average of 17·6 for the 10 years 1893-1902. The monthly incidence of the districts making returns was as follows :—

1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.		
Cases. Deaths.			Cases. Deaths.			Cases. Deaths.			Cases. Deaths.		
Jan.	114	24	April	84	12	July	99	15	Oct.	188	23
Feb.	81	18	May	72	22	Aug.	104	14	Nov.	173	24
Mar.	98	10	June	80	15	Sep.	207	28	Dec.	134	32
293 52			236 49			410 57			495 79		

In 43 districts there were no deaths recorded from fever, but the prevalence was marked in Ashton-in-Makerfield 32 cases 6 deaths, Ashton-under-Lyne (B) 44 cases 4 deaths, Atherton 65 cases 16 deaths, Farnworth 41 cases 10 deaths, Gorton 43 cases 8 deaths, Hindley 37 cases 3 deaths, Lancaster (B) 65 cases 9 deaths, Leigh (B.) 48 cases 12 deaths, Pemberton 33 cases 6 deaths, Rishton 30 cases 2 deaths, Swinton and Pendlebury 33 cases 6 deaths, Widnes (B.) 49 cases 12 deaths, and West Lancashire (R.) 26 cases 7 deaths.

In many of the above districts where the noisome privy midden system and faecally sodden unpaved backyards are met with, enteric fever is endemic, and it falls to my lot year after year to name them, yet little is done by way of remedy.

It has been said by a certain writer that for every outbreak of enteric fever someone should be hanged; if so, what punishment should be meted out to the members of an authority persistently neglectful of their duties?

Some of the reports as quoted again emphasise the danger inherent to shell fish obtained from estuaries or portions of the foreshore within range of sewage pollution. Dr. Coutts (Blackpool B.) is of opinion that the decrease of typhoid fever cases in his district as compared with previous years is partly explained by the oyster scare which acted in two ways, first by making people afraid to eat oysters, and secondly by compelling dealers to see that their shell-fish came from unpolluted layings. Another factor which no doubt helped considerably in reducing the incidence of typhoid fever is the great attention paid to the mussels on the piers and sewer outfall pipes. These were all cleared and deposited in deep water. Dr. Scholefield, West Lancashire (R.), reports, on several attacks due to ingestion of infected shell-fish, viz. : (a) Female, aged 43 ; this patient, along with three others in the same family, was taken ill after eating cockles. All, except the patient, were violently sick, and recovered in the course of a few days. She, however, developed symptoms of enteric fever some 12 or 14 days afterwards. (b) Female, aged 41 ; had been eating freely of cockles about a fortnight previous to commencement of illness the cockles having been gathered from the bank not far from the outlet of the Crosby sewer. In two other instances there was a definite history of the taking of shell-fish (oysters) 14 days previous to commencement of illness.

Contaminated milk was the cause of enteric fever outbreaks at Atherton, Levenshulme, and Westhoughton. Water from unclean wells gave rise to fewer cases of this disease than formerly, but from Skelmersdale, Ulverston (R.), and West Lancashire (R.) such cases were reported. From Hindley two typhoid fever cases are said to have been contracted in collieries, and other causes referred to include imperfectly ventilated sewers, defective drainage, insanitary condition of dwellings, &c.

In the diagnosis of enteric fever the aid of the bacteriologist was called in by several Authorities, such as

Birkdale, Blackpool (B.), Clitheroe (B.), Eccles (B.), Morecambe (B.), Moss Side, Prestwich, Stretford, Withington, &c. The value of the test, which was discovered in 1896, by Dr. Widal, of Paris, is now acknowledged. It is based on the action the blood of typhoid patients has on cultures of the typhoid bacillus, and gives valuable assistance in the detection of the disease in an early stage, when prompt action can be taken with advantage to the patient as well as the public.

Diarrhœa.—Under the heading of diarrhœa are included deaths certified as from diarrhœa alone, or in combination with some other cause of ill-defined nature, and also deaths certified as from

Epidemic enteritis, zymotic enteritis;

Epidemic diarrhœa, summer diarrhœa;

Dysentery and dysenteric diarrhœa;

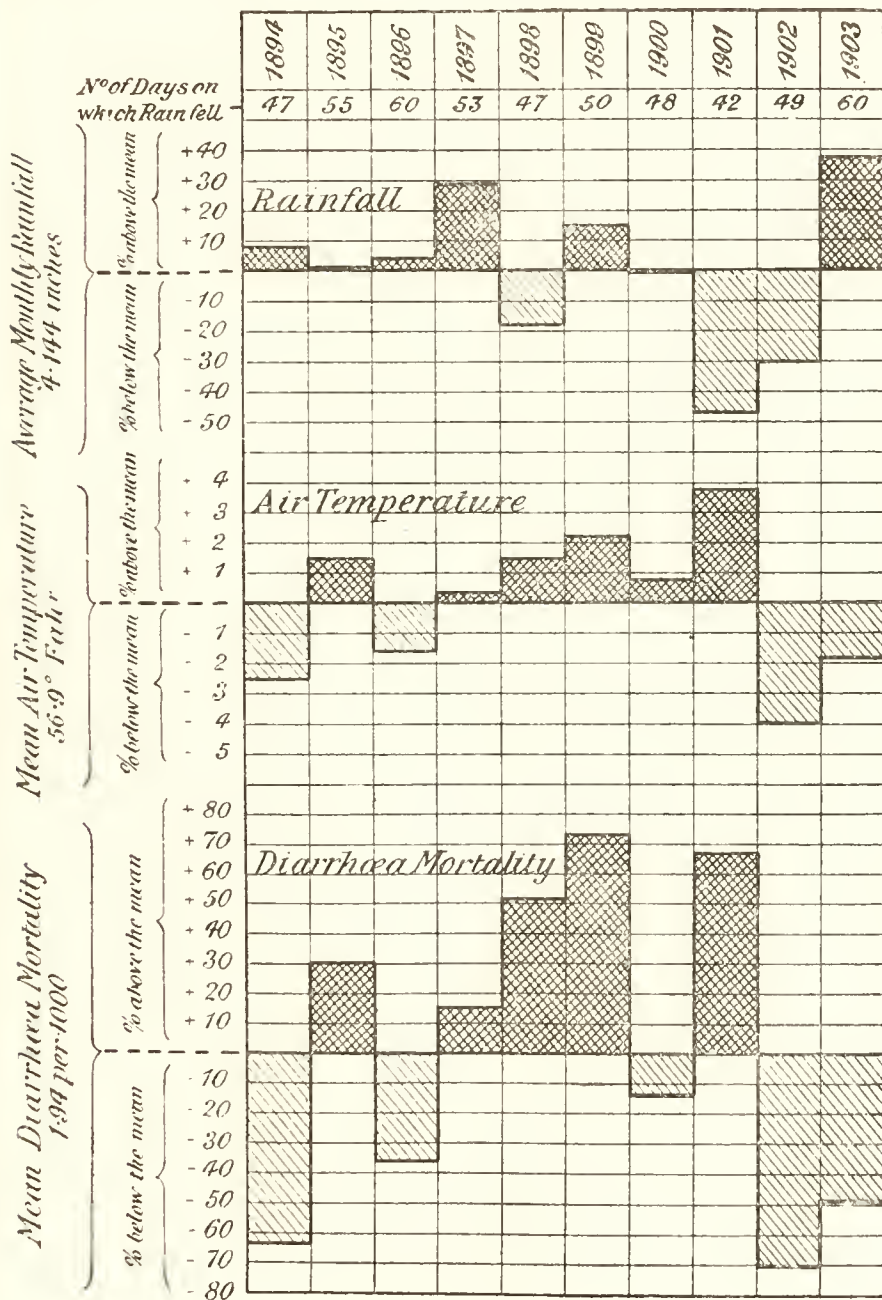
Choleraic diarrhœa, cholera, cholera nostras (in the absence of Asiatic cholera).

Deaths from diarrhœa secondary to some other well-defined disease should be included under the latter.

The total deaths included under the heading of diarrhœa amounted to 757, against 519 in 1902, and 1,187 in 1901. The County rate was equal to 0·4 per 1,000 of the population (urban 0·42, rural 0·26), and compared unfavourably with the County rate 0·28 (urban 0·30, rural 0·14) of the previous year. The whole of England and Wales gave a rate of 0·50, and 76 great English towns 0·71. The diarrhœa rates for the past 10 years, 1893-1902, averaged 0·76, or 0·36 above the rate for the year under review.

The highest rates were recorded in Prescott 2·67, Haydock 1·86, Ince-in-Makerfield 1·74, Pemberton 1·74, Orrell 1·65, Kearsley 1·59, Gorton 1·57, Abram 1·52, Ashton-in-Makerfield 1·47, Little Lever 1·33, Little Hulton 1·09, and Aspull 1·07.

This diagram is interesting as showing the diarrhoea deaths which occurred in the Administrative County during the summer quarters (July, August, and September) of the 10 years 1894-1903, together with the mean temperature—rain-fall and number of wet days (Stonyhurst) :—



The monthly incidence of the deaths from diarrhœa in the districts making monthly returns will be found in Table V., page 299, from which it will be seen that 458, or almost 63 per cent. of the total deaths during the year in these districts, occurred in the months of August, September, and October.

It will be observed that with the cold wet summer the diarrhœa deaths were much below the average, the excess of rain caused the streets and sewers to be well flushed, while the comparatively low temperature was not favourable to the development of conditions most favourable to diarrhœa—Dr. Martin (Gorton). is of opinion that :—“A hot, dry summer produces an abundance of house-flies, and diarrhœa makes its appearance in about a week after the flies appear in large numbers. The diarrhœa sickness fluctuates and keeps pace with the temperature of the atmosphere, which is much influenced by the rainfall; also, the number of flies keep pace with the temperature of the atmosphere and the rainfall. The atmospheric changes are but secondary causes in the production of the disease, namely, as influencing the appearance and disappearance of the common house-fly, and also as affecting their numbers. The principal factors in the production of the disease are two, namely, privy middens and flies, the latter conveying the germs from the privy middens on to food, which is almost exclusively cow's milk.”

Dr. Hosegood (Swinton) believes that, owing to the years 1902-3 not having in a general sense typical summers, it has proved a great blessing, not only in this but most other districts, so far as the great mortality from diarrhœa is concerned.

References are also made by Medical Officers of Health of other districts to the same subject, and also to the effects of insanitary surroundings and improper food. The latter have been fully dealt with under the head of infantile mortality.

Enteritis was responsible for 664 deaths, against 653 last year, and 896 in 1901. In order to avoid error and secure reliable and comparable statistics medical practitioners should use the term “epidemic enteritis” (or, if preferred, “zymotic enteritis”) as a synonym for epidemic diarrhœa, and discontinue as synonyms of epidemic diarrhœa in medical certificates of death such terms as gastro-enteritis, mucœ-enteritis, and gastric catarrh, which come under the heading of enteritis.

Epidemic Influenza occasioned 224 deaths, or 2 less than last year, and fewer than any year since 1896. In 1897 there were 337 deaths, 268 in 1898, 489 in 1899, 801 in 1900, 231 in 1901, and 226 in 1902. The deaths were most numerous in Accrington (B.) 14, Blackpool (B.) 10, Radcliffe 8, and West Lancashire (R.) 8. In the first quarter of the year the disease proved most fatal, then the 2nd quarter, 4th quarter next, and the 3rd quarter had fewest fatalities from this cause.

Respiratory Diseases comprising bronchitis, pneumonia, and pleurisy contributed 4,996 deaths, or 17·7 per cent. of the total mortality. In 1902 there were 5,469 deaths, with a percentage of 19·4; in 1901, 5,307, with a percentage of 17·8; in 1900, 6,727, with a percentage of 19·9.

Below are given the respiratory death-rates per 1,000 of the population:—

	1903.	1902.	1901.
Urban Districts	2·80	3·04	2·98
Rural Districts	1·96	2·44	2·32
Administrative County ..	2·60	2·90	2·90

The County death-rate from respiratory diseases is the

lowest recorded, and 0·76 per 1,000 below the mean of the 10 years 1893-1902.

The highest respiratory rates were attained in Little Lever 5·92, Abram 5·18, Ince-in-Makerfield 5·15, Prescott 5·09, Leigh (B.) 4·52, Brierfield 4·40, Trawden 4·36, Golborne 4·28, Tyldesley-with-Shakerley 4·19, and Bacup (B.) 4·08.

Heart Disease accounted for 2,419 deaths, or 120 more than in the previous year. The rate per 1,000 of the population corresponded to 1·30 or 0·05 below the mean (1·25) of the 10 years 1893-1902.

Tuberculous Phthisis was the cause of 1,670 deaths or 31 less than last year. The death-rates per 1,000 of the population are as follows :—

	1903	1902	1901
Urban Districts	0·92	0·94	1·00
Rural Districts.....	0·76	0·78	0·79
Administrative County ..	0·90	0·92	0·97

The further decline in the mortality from this preventable disease is eminently satisfactory, and may be taken as largely the result of the sanitary improvements which have been initiated throughout the County in recent years. The better housing of the people and enforcement of regulations for securing the healthy employment of persons employed in factories and workshops have exerted their influence in reducing the incidence of diseases of this character. For the 10 years 1893-1902 the phthisis rate averaged 1·14 or 0·24 above the rate for the year under report, which is the lowest recorded for the County, and equivalent to an annual saving of 444 lives.

The highest phthisis rates were attained in Ramsbottom 2·13, Longridge 2·09, Barrowford 2·0, Heywood (B.) 1·81, Lathom and Burscough 1·63, Whitefield 1·62, Dalton-in-Furness 1·53, Gorton 1·47, Ashton-under-Lyne (B.) 1·46, and Colne (B.) 1·43.

The diagram below shows the annual County deaths from tuberculous phthisis from 1891-1903 in relation to the mean of that period :—



The deaths from other tubercular diseases, including tuberculous meningitis, tuberculous peritonitis, *tuberculosis mesenterica*, general tuberculosis, and tuberculous diseases of other parts of the body numbered 905, which together with tuberculous phthisis gave rise to 2,575 deaths, equivalent to a rate of 1·38 per 1,000, or 0·03 in excess of the previous year.

In the following districts voluntary notification of phthisis has been adopted, viz.:—Accrington (B.), Birkdale, Eccles (B.), Leigh (B.), Levenshulme, Little Hulton, Little Lever, Moss Side, Much Woolton, Newton-in-Makerfield, Southport (B.), Stretford, Ulverston, Waterloo-with-Seaforth, and Gars-tang (R.). In several districts, for instance, Blackpool (B.), Haslingden (B.), Litherland, Waterloo-with-Seaforth, Withington, &c., disinfection is carried out after the occurrence of phthisis.

The only district in the Administrative County where a depôt has been provided for the sale of sterilised and humanised milk is Ashton-under-Lyne (B.), and Dr. Hughes reports that the venture is progressing satisfactorily. In view of the interim Report of the Royal Commission on Tuberculosis (June 1904), which shows that the disease can be transmitted from animals to man, and therefore by means of diseased milk the specific bacilli may infect the healthy, it is hoped that other districts in the County will make similar provision. The Royal Commission, in expressing the opinion that tuberculosis in animals and man is the same, and that reciprocal infection can take place, differ entirely from Prof. Koch, who, at the International Congress, held in London in July, 1901, startled the world by stating that bovine tuberculosis was a different disease from that affecting man. The report in question amply justifies the action taken by sanitary authorities to prevent the sale of tuberculous meat, and of milk obtained from an animal in any way suffering from disease. No doubt it will lead to the insistence of a still higher standard of hygienic principles in

relation to dairies and cowsheds, and stimulate other efforts in the direction of ensuring the absolute purity of the milk supply.

The following letter received from the Local Government Board (January, 1903), shows that the County Council, if so minded, can provide and maintain, out of the County funds, sanatoria for the treatment of consumptives, and it appears that a County Council may, by complying with certain conditions, contribute to the structural or other expenses of such institutions. It states that under the Isolation Hospitals Act, 1893, a County Council can constitute a Hospital Committee to provide hospital accommodation, &c., for patients suffering from those "infectious diseases" which are specified in the Infectious Diseases (Notification) Act, 1889, while under Section 26 of the Isolation Hospitals Act the term "infectious diseases" may be applied to any other disease by Order of a County Council in like manner as if the Council were a local authority under the Act of 1889.

"If, therefore, a County Council make an Order under Section 26 of the Act of 1893 (which Order would require the Board's consent), applying for the purposes of that Act the expression "infectious diseases" in their County to pulmonary tuberculosis (which is the name by which, as the Board are advised, the disease here in question should be described), it would be competent to the Council to constitute a Hospital Committee or Hospital Committees under the Act for the specific purpose of providing hospital accommodation for that disease; and, under Sections 21 and 22 of the Act, it would be open to the Council to contribute towards the cost of such accommodation. Any Order made by resolution of a County Council under Section 26 should in its terms conform strictly to the language of that Section.

"In the preliminaries to the passing of such a resolution it is essential that the requirements of section 7 (1) of the Act of

1889 should be complied with (*e.g.*, 14 clear days' notice of the intention to propose the resolution should be given to every member of the County Council)."

Infectious Disease Notification.—The total notifications amounted to 19,672 or 458 more than last year, and 2,948 in excess of 1901. As compared with 1902, the chief increase was in small-pox 720, scarlet fever 1,029, whooping cough 408, and chicken-pox 660, whilst cases of typhoid fever declined 268, diphtheria 684, and measles 1,294. Particulars of notified cases, as compared with 1902, are given in the following Table :—

Diseases.	1903.			1902.		
	Urban Sanitary District.	Rural Sanitary District.	Total.	Urban Sanitary District.	Rural Sanitary District.	Total.
Small-pox.....	1047	109	1156	416	20	436
Scarlet Fever ...	9303	879	10182	8070	1083	9153
Diphtheria	1700	270	1970	2358	296	2654
Membranous						
Croup	138	26	164	160	19	179
Typhus Fever ...	6	...	6	9	1	10
Typhoid Fever...	1315	164	1479	1547	200	1747
Continued Fever.	40	...	40	61	2	63
Puerperal Fever..	138	15	153	138	18	156
Erysipelas.....	1223	115	1338	1263	140	1403
Measles	1340	342	1682	2279	697	2976
Whooping Cough	537	69	606	138	60	198
Chicken Pox.....	882	9	891	231	...	231
Rötheln.....	5	...	5	5	...	5
Relapsing Fever..	...	...	...	2	1	3
English Cholera..	...	...	...	...	...	...
Diarrhœa .....	...	...	...	...	...	...
Not classified ...	...	...	...	...	...	...
Total	17674	1998	19672	16677	2537	19214

As already stated (page xxx.), measles is notifiable in five districts, and certain Medical Officers of Health recommend its adoption in their districts. Chicken-pox was made

notifiable in 22 districts at various times during the year as a precautionary measure, it being feared that mild cases of small-pox might be mistaken for this disease, and so escape notice. The following are some of the districts in which chicken-pox was for varying periods made compulsorily notifiable:—Blackpool (B.), Chadderton, Darwen (B.), Denton, Eccles (B.), Failsworth, Lancaster (B.), Levenshulme, Orrell, &c.

Isolation Hospitals.—The Table below shows the position of the County with regard to hospital provision, there having been a satisfactory extension of area and population provided with hospitals as compared with last year, and the number of districts provided with small-pox accommodation has also increased. There are now only 7 districts, with a population of 42,309, wholly without some provision for isolating cases of infectious disease, while 11 years ago the population comprised in this respect amounted to 370,830.

	Boroughs.	Urban Sanitary Districts.	Rural Sanitary Districts.	Total.	Estimated Population.	Acreage (per Census Return)
Districts with Hospitals	9	36	10	55	874973	609110
Districts with Small-pox Hospitals only... ..	7	18	4	29	419444	253339
Districts with Hospital Schemes in progress*	1	9	1	11	129900	38579
Districts claiming the privilege of sending patients to Hospitals in other Districts	3	26	4	33	386941	151947
Districts without Hospital accommodation ... ..	...	7	...	7	42309	32607
Total	20	96	19	135	1853567	1088582

* In addition 14 districts (already included in other columns) are combined under the Wigan and District Joint Hospital Order for the purpose of providing a Small-pox Hospital.

Table (A) appended shows the position of the County districts with respect to hospital accommodation actually in operation or contemplated.

The Isolation Hospitals Act.—After very careful inquiry and conference with the various districts concerned, the Public Health Committee recommended that an Order be made by the County Council, under “The Isolation Hospitals Act, 1893,” constituting a small-pox hospital district for the Urban Districts of Abram, Ashton-in-Makerfield, Aspull, Billinge, Blackrod, Hindley, Horwich, Ince-in-Makerfield, Orrell, Pemberton, Standish-with-Langtree, Upholland, Westhoughton, and the Rural District of Wigan. An Order carrying out the above was issued by the County Council on May 7th, 1903, and on appeal to the Local Government Board by some of the districts concerned, under Section 8 (3) of the Act, an Inquiry was held by an Inspector of the Board, and subsequently the appeal was dismissed. The newly-formed Hospital District is a very important one: it embraces, as already stated, thirteen urban districts and one rural district, having an area of 55,037 acres, and a population, as enumerated at the census, 1901, of 159,936, and with the exception of Orrell, these districts are, at present, more or less provided with some hospital accommodation, which, when the joint small-pox hospital is provided, may be used for the treatment of ordinary infectious diseases.

By Provisional Order, dated 18th May, 1903, the Order of the County Council under “The Isolation Hospitals Act, 1893,” dated 5th August, 1897, forming the districts of Radcliffe, Ramsbottom, Whitefield, and Bury (R.) into a joint hospital district was dissolved, and a united district under Section 279 of “The Public Health Act, 1875,” was constituted, combining the above-mentioned districts, together with Tottington and the County Borough of Bury, for the provision, maintenance, and management of a hospital or hospitals for the reception of cases of infectious disease.

TABLE (A). **HOSPITAL PROVISION IN VARIOUS DISTRICTS OF THE ADMINISTRATIVE COUNTY.**
(PARTICULARS TAKEN FROM THE HEALTH REPORTS FOR THE YEAR 1903).

Districts with Hospital		Districts with Hospital Schemes in progress.	Districts claiming the Privilege of sending Patients to Hospitals as printed in parentheses.	Districts without Hospital Accommodation.
Ashton-in-Makerfield.	Lunesdale R.	*Horwich.	Allerton (Whiston).	Church.
a Ashton-under-Lyne B.	Sefton R. (Cottage).	*Westhoughton.	Aspull (Wigan).	Grange-over-Sands.
Birkdale.	Whiston R.	Blackrod.	†Bacup B. (Sourhall, Todmorden).	Great Harwood.
§Blackpool B.	Radcliffe.	Littleborough.	††Barrowford (Nelson).	Little Crosby.
*Carnforth.	Ramsbottom.	Milnrow.	†Childwall (Liverpool).	Orrell.
†Darwen B.	Tottington.	Wardle.	†Clayton-le-Moors (Accrington).	Trawden.
Heysham	Whitefield.	*Nelson B.	†Croston (West Lancashire R.)	Turton.
Ince-in-Makerfield	Bury B.	c Audenshaw.	Denton (Hyde).	
Lancaster B.	Withnell.	c Droylsden.	Eccles B. (Salford).	
Morecambe B.	(55)	e Hurst.	Failsworth (Oldham).	
Lathom & Burscough.		f Limehurst R.	Great Crosby (Bootle).	
Ormskirk.	FOR SMALL-POX ONLY.		Haydock (St. Helens).	
Pemberton.		(11)	Heaton Norris (Salford and Stockport).	
Rainford (Cottage).	*Abram (Hospital for ordinary Infectious Diseases approaching completion).	Abram.	Huyton-with-Roby (Whiston R.).	
†Skelsmersdale (Cottage).	Accrington B.	Ashton-in-	Kearsley (Salford).	
Southport B.	Billinge (Cottage).	Makerfield.	Lees (Oldham).	
†Walton-le-Dale (New Hospital in course of erection)	Chadderton.	Aspull.	Levenshulme (Withington).	
Widnes B.	Crompton.	Blackrod.	Litherland (Bootle).	
Atherton.	Royton.	Hindley.	†Little Woolton (Whiston R.).	
Golborne.	Colne B.	Horwich.	Middleton B. (Rochdale).	
Leigh B.	d Gorton.	Ince-in-	g Moss Side (Withington).	
Tyldesley.	Haslingden B.	Makerfield.	Much Woolton (Whiston R.).	
Leigh R.	Heywood B.	Orrell.	Newton-in-Makerfield (Liverpool and Warrington).	
Farnworth.	Hindley.	Pemberton.	Prescot (Whiston R.).	
Little Hulton.	*Irlam.	Standish-with-	Prestwich (Salford).	
Little Lever.	Mossley B.	Langtree.	Rishton (Blackburn).	
Adlington.	Norden	Upholland.	Stretford (Salford).	
Chorley B.	Oswaltdtwistle.	Westhoughton.	Urmston (Salford).	
Leyland.	Rawtenstall B.	Wigan R.	Waterloo-with-Seaforth (Bootle).	
Chorley R.	*Standish-with-Langtree		Barton-upon-Irwell R. (Salford).	
Dalton-in-Furness.	(Cottage).		Blackburn R. (Blackburn B.).	
Ulverston.	Whitworth.		Lancaster R. (Lancaster B.).	
Ulverston R.	*Preston R.		Warrington R. (Warrington B.)	
West Lancashire R.	*Fulwood.			
|| Fleetwood.	Longridge.			
Kirkham.	Garstang R.			
Lytham.	*Preesall.			
St. Annes.	*Wigan R. (Cottage).			
Poulton.	b Swinton and			
Thornton.	Pendlebury.			
Bispham.	b Worsley.			
Fylde R.	Upholland (Tent).			
Brierfield.	Clitheroe B.			
Padiham.	Clitheroe R.			
Burnley R.				
	(29)		(33)	(7)

* Not used during the year. † Privilege not taken advantage of during the year. ‡ Reserved for small-pox only. || Port Hospital already provided. ¶ Accommodation for small-pox already provided. § Combined with Fylde, Preston, and Garstang for small-pox purposes. a Also in proposed combination with Audenshaw, &c., for small-pox purposes. b Ordinary infectious cases sent to Salford. c Cases at present sent to Hyde. d Ordinary infectious cases sent to Withington and Stockport. e Ordinary infectious cases sent to Ashton-under-Lyne. f Small-pox cases sent to Ashton-under-Lyne. g Joint with Withington for small-pox. h Districts already included under other heads.

The other hospitals provided under Local Government Board Orders, as authorised by "The Public Health Act, 1875," embrace the Chorley (B.), Adlington, Leyland, and Chorley (R.) hospital, with 36 beds, erected at a cost of £17,000, and opened April 27th, 1901; the Dalton-in-Furness, Ulverston, and Ulverston (R.), transferred from the Ulverston Poor Law Authority April, 1st, 1899; the Withington hospital at Baguley, provided with 100 beds—56 for the treatment of scarlet fever patients, 36 for typhoid or diphtheria, and 8 for isolation purposes—at a cost of £65,000, December 10th, 1902; and the Walton-le-Dale isolation hospital—estimated to cost £5,000—for the treatment of 12 patients, now approaching completion. Hospitals have also been provided for Joint Authorities at Burnley, Leigh, and Farnworth (see Table A.)

Particulars of the Joint Hospital Districts formed by the County Council under "The Isolation Hospitals Act, 1893," are contained in the following tabular statement:—

District.	Date of Order.	Progress made towards Hospital Provision.
Chadderton Crompton Royton	Aug. 2, 1894	Small-pox accommodation for 12 patients. £5,150 borrowed from County Council. No provision for treatment of ordinary infectious diseases.
Preston (R.) Fulwood Longridge	Nov. 7, 1895	Hospital approaching completion, comprising scarlet fever pavilion (22 beds), observation pavilion (4 beds), administrative block, &c. Local Government Board sanction obtained to the borrowing of £15,900 for buildings.
Fleetwood Kirkham Lytham St. Annes-on-the-Sea Poulton-le-Fylde Thornton Bispham-with-Norbreck Fylde (R.)	Nov. 7, 1895	Hospital erected at Moss Side (Fylde R.); 30 beds. Opened for the reception of patients, 14th April, 1902. Money expended on buildings, &c., £17,166 11s.

District.	Date of Order.	Progress made towards Hospital Provision.
Fylde } Preston } Urban & Garstang } Rural Unions } Districts	Nov. 7, 1895	Hospital approaching completion at Elswick for the isolation of 32 small-pox patients. Emergency pavilion already provided for the reception of 12 patients at a cost of £900. £18,850 borrowed from County Council.
Horwich } Westhoughton } Blackrod }	Nov. 2, 1899	Hospital approaching completion which will accommodate 22 scarlet fever, 12 typhoid, and 4 diphtheria patients. Sanction obtained to borrow £16,000.
Littleborough } Milnrow } Wardle }	Feb. 1, 1900	Land secured and revised plans prepared for hospital, with scarlet fever pavilion (12 beds), observation pavilion (4 beds), administrative block, &c. Sanction asked for to borrow £9,130 for buildings.
Abram } Ashton-in- } Makerfield } Aspull } Billinge } Blackrod } Hindley } Horwich } Ince-in-Makerfield } Orrell } Pemberton } Standish-with- } Langtree } Upholland } Westhoughton } Wigan (R.) }	May 7, 1903	Four Authorities, viz., Aspull, Pemberton, Standish-with-Langtree, and Wigan (R.), appealed to the Local Government Board objecting to the formation of such district. By Order, dated January 30th, 1904, the Local Government Board dismissed the Appeal. A Joint Committee has now been formed, and are considering the question of site, &c.

In the 55 districts provided with hospital accommodation 8,068 cases of infectious disease were notified (excluding measles and chicken-pox), and 3,315 or 41·0 per cent., received hospital isolation, as compared with 32·5 last year, 27·8 in 1901, and 30·0 per cent. in 1900. The total number of scarlet fever cases notified in these districts amounted to 5,144, and 2,334, or 45·3 per cent., were removed, against

41·8 per cent. removed from districts provided with hospitals in the previous year, 40·1 in 1901, 39·8 in 1900, 35·2 in 1899, 36·5 in 1898, and 37·6 in 1897. Of the scarlet fever patients removed from the previously mentioned 55 districts 63 died in hospital, equal to a case mortality of 2·6 per cent., as compared with 3·2 per cent. last year, 2·9 in 1901, 2·6 per cent. in 1900, and 3·6 per cent. in 1899. The remainder of the scarlet fever attacks in these districts (2,810) were treated at home, and 109, or 3·8 per cent., had a fatal termination. In 60 other districts where the whole of the scarlet fever cases notified were treated at home the case mortality was equal to 4·3 per cent.

In the 33 districts claiming the privilege of sending cases to hospitals in other districts 3,367 cases of infectious disease were notified (excluding measles and chicken-pox), and 905, or 26·8 per cent. of removals took place, against 21·5 per cent. last year, 23·7 in 1901, 18·1 per cent. in 1900, 16·9 in 1899, 17·6 in 1898, and 10·6 in 1897. In 4 of these districts the privilege claimed was not taken advantage of, and in 10 others the removals varied from 1 to 8. The proportion of scarlet fever cases treated in hospital was greatest in Golborne 100 per cent., Heysham 100 per cent., Blackpool (B.) 94 per cent., Chorley (B.) 89 per cent., Morecambe (B.) 88 per cent., Bispham-with-Norbreck 83 per cent., Farnworth 81 per cent., St. Annes-on-the-Sea 77 per cent., Southport (B.) 74 per cent., Widnes (B.) 67 per cent., Lancaster (B.) 66 per cent., Padiham 66 per cent., Whiston (R.) 65 per cent., West Lancashire (R.) 62 per cent., Moss Side 61 per cent., and Adlington 60 per cent.

In view of the heterodox opinions that have been expressed in two or three of the County districts relative to the value of hospital isolation in cases of scarlet fever, the above figures are very interesting as showing that of the cases

(2,334) removed to hospital from 55 districts, with a population of 874,973, the mortality was equal to 2·6 per cent. as compared with a mortality of 3·8 per cent. among the 2,810 cases which were treated at home in these districts. The mean mortality for the whole of the scarlet fever cases was, in the hospital districts, 3·3 per cent., as compared with 4·3 per cent. in the districts (60 in number, population 667,788) from which scarlet fever cases are not removed. The value of hospital isolation is largely influenced by the way it is carried out. If scarlet fever removals take place only spasmodically, and the other precautionary measures, such as disinfection and quarantine of "contacts" are imperfectly adopted in a district, one can scarcely expect satisfactory results. The character of the population and housing accommodation also influence the value of hospital isolation and must be taken into consideration when comparing one district with another. Further, efficiency of the hospital system must be complete; inefficiency in this respect shows the necessity of administrative improvement, but does not, to my mind, affect the principle involved. In making comparisons large populations, fairly similar in their characteristics as the districts in the Administrative County given in the following Tables, must be taken, for as a whole they are less liable to the disturbances due to local neglect or insanitary conditions, and the statistics should extend over a series of years so as to minimise as far as possible the periodical epidemic influences.

These statistics, although extending over a somewhat limited period, give support to the views which have hitherto been accepted as tenets by those who practise preventive medicine. There is evidence that treatment of scarlet fever in an isolation hospital gives the patient a better chance of recovery than if treated at home, the case mortality in the County hospitals for the past quinquennium being equal to 2·9 per cent. as compared with 4·3 per cent. among those

receiving home treatment, or a mean of 3·8 per cent. for the whole of the cases occurring in the hospital districts, against 4 per cent. in the districts where hospital isolation is not practised. The light death-rate in hospitals does not indicate that isolation tends to increase the malignancy of the disease, in fact the contrary is proved; and the Tables below also show that the mean death-rate from all the scarlet fever cases, per 1,000 of the population, in the hospital districts, is slightly more favourable than in the other districts. The low mortality from scarlet fever which has taken place since the introduction of isolation hospitals is largely responsible for its wide distribution and the difficulty of curtail- ing its progress. Parents do not recognise the disease, or treat it with contempt, and as a result it is disseminated in schools and in other directions until recognised by the appearance of desquamation. The attack rate therefore remains high, especially in those districts where the inflammable material in the form of children susceptible to the infection of scarlet fever is most pronounced.

DISTRICTS WHERE MORE THAN 40 PER CENT. OF THE SCARLET
FEVER CASES WERE ISOLATED IN HOSPITALS.

Year.	No. of Districts provided with Hospital Accommodation.	Population.	Scarlet Fever.		Per 1,000 of the Population.		Per-centage of Cases Isolated in Hospital	Mortality per cent.	
			Cases Notified	Deaths.	Attack Rate.	Death Rate.		Of Cases Treated in Hospital	Of Cases Treated at Home.
1899	37	776,777	3,383	145	4·3	0·18	35·2	3·6	4·6
1900	41	820,197	3,529	135	4·3	0·16	39·8	2·6	4·6
1901	39	729,035	3,356	129	4·6	0·17	40·1	2·9	4·4
1902	49	845,525	4,391	173	5·1	0·20	41·8	3·2	4·4
1903	55	874,973	5,144	172	5·8	0·19	45·3	2·6	3·8
Average 5 years 1899—1903...		809,301	3,960	150	4·8	0·18	40·9	2·9	4·3

DISTRICTS WHERE ALL THE SCARLET FEVER CASES WERE
TREATED AT HOME.

Year.	No. of Districts	Population.	Scarlet Fever.		Per 1,000 of Population.		Mortality.
			Cases Notified.	Deaths.	Attack Rate.	Death Rate.	Per cent of Cases Notified.
1899	74	872,130	3882	160	4.4	0.18	4.1
1900	66	669,300	3727	145	5.5	0.21	3.8
1901	66	625,230	2862	116	4.5	0.18	4.0
1902	62	638,852	3017	116	4.7	0.18	3.8
1903	60	667,788	3115	137	4.6	0.17	4.3
Average 5 years 1899—1903 ...		694,660	3320	134	4.7	0.19	4.0

Disinfection —Efficient steam disinfecting appliances are available in 55 districts, 31 districts actually possess the apparatus, 13 use the hospital disinfectors, and 11 have working arrangements with neighbouring County Boroughs. Obsolete dry heat appliances are still in use in 11 districts, and 69 districts have no proper provision for carrying out disinfection. New steam disinfectors have during the year been provided at Acerington (B.), Crompton, and Nelson (B.). and apparatus will shortly be available at Birkdale, Levenshulme, Lytham, and Morecambe (B.). Medical Officers of Health of the following districts urge the provision of efficient appliances :—Audenshaw, Denton, Heysham, Litherland, Tyldesley-with-Shakerley, Upholland, &c. There is a great objection to the practice adopted in some districts of taking infected articles of clothing to be disinfected at the isolation hospital, as there is always the possibility of disease being spread in this way. The hospital disinfectant should only be used for the clothing, &c., of the patients admitted. Formaldehyde, either as a spray or a vapour, is extensively used; corrosive sublimate in solution being discontinued on account of the danger to the operators. &c.

The Midwives Act, 1902, came into operation April 1st, 1903, and attention may be drawn to the following provisions of the Act which materially affect the legal position of all Midwives.—

(1) From and after the 1st April, 1905, no woman may call herself a midwife, unless certified as the Act provides.

(2) From and after the 1st April, 1910, no woman may practice (*i.e.*, habitually and for gain, attend women in childbirth, otherwise than under the direction of a qualified medical practitioner), unless certified as the Act provides.

(3) No woman shall be certified under this Act until she has complied with the Rules and Regulations laid down in pursuance of this Act.

(4) No certified midwife may employ an uncertified substitute.

(5) Any woman who *before* the 31st March, 1905, claims to be certified under the Act may be so certified, if—

(a) She holds a Certificate in Midwifery from the Royal College of Physicians of Ireland, or from the Obstetrical Society of London, or the Coombe Lying-in Hospital and Guinness's Dispensary, or the Rotunda Hospital for the relief of Poor Lying-in Women of Dublin; or

(b) She holds such other Certificate in Midwifery as the Central Midwives Board may approve; or

(c) She satisfies the Central Midwives Board that she has been in *bona fide* practice as a midwife for at least one year prior to the 31st of July, 1902; and that she bears a good character.

(6) A woman not included within one of these three classes will be required to pass the examination of the Central Midwives Board before obtaining a Certificate.

It is also important to bear in mind that a midwife may be suspended from practice, in order to prevent the spread of infectious disease, or may be removed from the Roll for disobeying the Rules and Regulations of the Central Midwives Board, or for other misconduct. Penalties are also prescribed for any infringement of the foregoing provisions; also for obtaining a Certificate by false representation, or for wilful falsification of the Midwives Roll.

Sanitary Administration has received satisfactory attention in the majority of the County districts, and special reference to each district is given in the summary of the reports received from Medical Officers of Health. The continued decline in diseases such as enteric fever and phthisis may be taken as indicative of improvements which have been made during recent years in the surroundings of the homes of the people and the more careful supervision of conditions affecting those who labour in the factories and workshops. Throughout the County 40,691 nuisances are reported as having been abated after the service of 24,629 notices, and legal proceedings in only 62 instances.

PRIVY-MIDDENS are now generally regarded by Local Authorities as a prolific source of disease, and it is satisfactory to observe that an increasing energy has been directed by sanitary officials towards the removal of this nuisance and the provision of a system more in accordance with modern requirements. There are too many references to defective street scavenging, and in many of the rural townships owners of property or the tenants themselves are made responsible for the emptying of middens and removal of refuse. Unpaved backyards and house surroundings are frequently referred to as sodden with faecal matter and held responsible for many occurrences of endemic disease. The same may be said of unformed streets, which, in a large number of districts, exist to the annoyance and danger of the public.

HOUSING OF THE WORKING CLASSES has engaged the attention of 50 District Councils, and as a result 342 insanitary houses were either closed or made fit for human habitation. Among the references to this subject are the following:—

Bacup (B.).—Many back-to-back houses still exist, but they are gradually being made into through houses, 14 such conversions taking place during the year. Three cellar dwellings were closed.

Prescot.—Twenty-four houses have recently been erected for the working class, at a cost of £4,400, and plans for 14 others, to cost £2,880, have been approved by the Local Government Board. These are to take the place of an insanitary area, the houses on which were condemned and demolished.

Stretford.—A scheme for the erection of 114 dwellings for the poorer portion of the working classes has been formulated and application made to borrow money for that purpose.

Upholland.—Scarcely a cottage in the whole row from Alma Hill to Factory Row exists which is fit for human habitation. In some cases the condition of the houses and the inmates is simply appalling, and the time has come when a definite plan for dealing with the matter should be discussed.

Westhoughton.—House accommodation is steadily improving under new bye-laws. The main points susceptible of improvement are the paving of backyards and the necessity of insuring freedom from dampness by proper construction of damp-proof foundations.

Withington.—Ninety-nine notices—referring to 194 houses—were served requiring alterations of insanitary properties, and 116 such premises were altered without notice.

CANAL BOATS ACTS have been satisfactorily enforced in the districts through which canal boats pass. Altogether 1,288 boats have been inspected, and only 26 infringements of the Acts requiring notices came under observation. In none of the districts is any special reference to this question made. The inspections were most numerous in Church 60, Eccles (B.) 61, Ince-in-Makerfield 60, Lancaster (B.) 100, Leigh (B.) 119, Widnes (B.) 65, Worsley 80, Leigh (R.) 185, and West Lancashire (R.) 53.

SLAUGHTER-HOUSES are now provided by the following Local Authorities in this County, viz.:—Accrington (B.), Blackpool (B.), Chorley (B.), Clitheroe (B.), Colne (B.), Great Harwood, Lancaster (B.), Moss Side, Southport (B.). At St. Annes-on-the-Sea a public abattoir is approaching completion, and at Lytham new premises will shortly be commenced. At Clitheroe (B.) the existing public slaughter-house is not satisfactory, and the provision of a new abattoir is under consideration. The Medical Officers of Health of Heywood (B.) and Stretford strongly advocate the erection of public slaughter-houses. At Droylsden and Morecambe (B.) new bye-laws were adopted during the year. Comparatively few of the private slaughter-houses comply with the Model Bye-laws of the Local Government Board, and, owing to their being scattered over a district, inspection of meat is made unnecessarily difficult to perform with efficiency. In consequence of the Report of the Select Committee of the House of Commons on the Tuberculosis (Animals) Compensation Bill, the Local Government Board have (September 7th, 1904) issued an important memorandum on the seizure and condemnation of tuberculous meat which deserves the close attention of inspectors who may be called upon to examine meat. It is suggested that the following principles expressed by the Royal Commission on Tuberculosis in their report of 1898 should be observed in the inspection of tuberculous meat of cattle:—

- | | |
|--|--|
| <p>(a) When there is miliary tuberculosis of both lungs.</p> <p>(b) When tuberculous lesions are present on the pleura and peritoneum.</p> <p>(c) When tuberculous lesions are present in the muscular system, or in the lymphatic glands embedded in or between the muscles.</p> <p>(d) When tuberculous lesions exist in any part of an emaciated carcase.</p> | <p>The entire carcase and all the organs may be seized.</p> |
| <p>(a) When the lesions are confined to the lungs and the thoracic lymphatic glands.</p> <p>(b) When the lesions are confined to the liver.</p> <p>(c) When the lesions are confined to the pharyngeal lymphatic glands.</p> <p>(d) When the lesions are confined to any combination of the foregoing, but are collectively small in extent.</p> | <p>The carcase, if otherwise healthy, shall not be condemned, but every part of it containing tuberculous lesions shall be seized.</p> |

With regard to complaints made by butchers as to the injury caused to them by their prosecution in open court for having tuberculous meat upon their premises, the Select Committee express their view that, if a butcher who is in possession of tuberculous meat has notified the fact to the proper authority as soon as he could be reasonably expected to be aware of it, the case should not be taken into Court.

DAIRIES, COWSHEDS, AND MILKSHOPS.—From the information given in the annual reports it appears that regulations

framed under the Order of the Local Government Board are in force in 106 districts, and 29 districts are without regulations or any proper supervision. Revised regulations were adopted in Accrington (B.), Billinge, Clayton-le-Moors, and Levenshulme. It is very difficult to understand why the rural districts of Chorley, Garstang, Lunesdale, Whiston, and Wigan continue without regulations or proper supervision, seeing that so much of the County is dependent on the milk exported from these districts. The condition of the dairies and cowsheds generally cannot be considered satisfactory, and, until the supervision ceases to be under local control, little can be expected. The opinion expressed by Dr. Parker (Lancaster R.) may be taken as applicable to most of the rural cowsheds. Some of the cowsheds he describes as suitable for their purpose and fairly satisfactory, but the great majority of these places are without a proper supply of air, deficient in drainage, the floors are dirty, and they are "in every way unsuited for the maintenance of a healthy life in the animals whose fate it is to dwell in them continuously for the six months of winter."

COMMON LODGING-HOUSES have received a large amount of attention, more especially in those districts where small-pox made its appearance. As a rule these places are well conducted, and serve a useful purpose, comparatively few being prosecuted for not observing the bye-laws of the Local Authority.

THE FACTORY AND WORKSHOP ACT, which came into operation January 1st, 1902, has stimulated factory inspection throughout the County, and, with few exceptions, the reports show evidence of considerable activity. Sanitation, in the form of more cleanliness, better ventilation, and the provision of suitable and efficient sanitary conveniences, has been largely carried out. At Failsworth, Milnrow, and Mossley (B.) action has been taken to cause mills to be provided with additional fire escapes.

BAKEHOUSES have throughout the County districts been subjected to careful inspection, and the results have proved satisfactory. Underground bakehouses have been extensively closed, or made to comply with the local requirements. After January 1st, 1904, an underground bakehouse must not be used, unless certified by the District Council to be suitable for the purpose, but appeal is allowed if the certificate is refused, or if the occupier claims that the cost of the alterations necessary in order to obtain it ought to be borne or shared by the owner.

COAL MINING.—Recently attention has been directed to the possibility of workers in collieries being afflicted with a disease known as ankylostomiasis, or miners worm disease. It appears that a good many North of England miners have been in South Africa, where the disease is probably common among natives employed in the mines, though there is no published record of Europeans being infected except at Kimberley. The infection might also be introduced by foreigners or others who have previously worked in infected mines or who come from countries in which infection is common among the general population. The stools of persons affected with this disease contain the ova of a particular worm, which with a moist temperature from 77 degrees to 86 degrees Fahr., absence of sunlight, and a supply of oxygen develop into free larvæ. In a more mature stage they become productive on gaining access to the intestines and give rise to anaemia owing to the deficiency of hæmoglobin (red colouring matter) produced in the blood, as mentioned in a previous report. Precautionary measures against the spread of ankylostomiasis in English mines must be directed to preventing faecal pollution of the ground, by provision of suitable pail closets above and below the pit, destruction of excreta containing ova, washing appliances for the men, pure water supply, cleanliness while eating and drinking, and exclusion during treatment of infected persons.

These, I believe, are the views generally held on this subject, and which the representatives of the miners and the Mining Association of Great Britain brought before the Home Secretary at a conference held on the 12th of last November. The removal of faecal pollution, not infrequently found in some of the Lancashire mines, together with the provision of sanitary requirements already suggested, will not only safeguard the workmen against the invasion of ankylostomiasis, but also prevent the occurrence of typhoid fever and other diseases owning a filth origin.

Smoke Nuisance.—From the appended Table it will be seen that 63 Authorities report on action taken for the suppression of black smoke, as compared with 55 in the previous year, 53 in 1901, and 39 in 1900. The 1,784 observations taken represent 534 more than last year, and the number of prosecutions increased from 20 to 33. The greatest activity with respect to black smoke was shown in Ashton-under-Lyne (B.) 440 observations, Turton 225, Much Woolton 200, Stretford 97, Middleton (B.) 87, Swinton and Pendlebury 71, Leigh (B.) 60, Moss Side 50, Farnworth 47, Radcliffe and Littleborough each 41, Church 40, and Lancaster (B.) 38. Dr. Blakemore (Tyldesley), referring to the smoke nuisance, says, “a grave and constant nuisance from this source is ever present. The Inspector has taken many observations, and reported as much as 30 minutes black smoke during the hour. Such an immense volume of unburnt carbon and waste gases thrown into the atmosphere must have a very deleterious effect on the general respiratory sick rate, besides the discomfort and uncleanness caused thereby.” Dr. Hitchon (Heywood B.) reports on 28 observations and says, as the result of enquiries, “it was usually found that the excessive smoke was due to the use of unsuitable fuel, lack of attention on the part of the stokers, or insufficient boiler capacity for the power required—all preventable causes.”

DISTRICTS.	No. of Smoke Observa- tions.	Time limit per hour— Minutes.	No. of Legal Pro- ceedings.	REMARKS on action taken.
Accrington (Boro)	10	8	..	9 notices to abate served.
Ashton-under-Lyne (Boro).	440	8	..	
Atherton	2	Owners cautioned.
Audenshaw	Several	..	..
Bacup (Boro)	6	6	..	Fined 10s. and costs.
Barrowford	4	..	..
Billinge	1	5	..	
Birkdale	11	..	1	
Blackpool (Boro)	17	5	..	
Chorley (Boro)	Many	..	..
Church	40	8	..	
Clitheroe (Boro)	Several	..	..
Colne (Boro)	20	..	..
Darwen (Boro)	15	10	..	
Denton	11	Proceedings adjourned
Eccles (Boro)	28	4	1	
Failsworth	26	8	..	2 smoke nuisances abated.
Farnworth	47	..	..
Fleetwood	Frequent	6	..	Convictions obtained
Fulwood	Frequent	..	1	
Gorton	9	10	..	Order to abate obtained
Great Crosby	Not stated	..	..
Great Harwood	Frequent	10	..	Fines inflicted and Orders to abate.
Haslingden (Boro)	2	10	..	
Heywood (Boro)	28	10	4	Time limit exceeded on 8 occasions. Fines inflicted of 10s. 6d. and costs in each case.
Horwich	Frequent	..	..
Huyton-with-Roby	2	6	..	Several notices served.
Irlam	Frequent	16	..	
Lancaster (Boro)	38	3	..	Fines and costs amounting to £12 2s. 6d. imposed.
Lathom and Burscough ..	1	..	..
Leigh (Boro)	60	12	..	
Levenshulme	Few	10	..	
Litherland	Frequent	5	1	
Littleborough	41	8	..	
Little Hulton	3	15	..	
Middleton (Boro)	87	10	15	
Milnrow	33	8	4	
Moss Side	50	..	..
Much Woolton	200	3	..	
Norden	5	..	..
Pemberton	Occa- sionally	
Prescot	Frequent	..	..
Prestwich	32	5	..	
Radcliffe	11	..	..
Ramsbottom	7	12	..	
Rawtenstall (Boro)	6	..	..
Skelmersdale	1	
Southport (Boro)	3	4	..	
Stretford	97	4	5	

DISTRICTS. (Continued.)	No. of Smoke Observa- tions.	Time limit per hour - Minutes.	No. of Legal Pro- ceedings.	REMARKS on action taken.
Swinton and Pendlebury..	71	5	..	
Thornton	Constant	..	..
Tottington	6	12	..	
Turton	225	10	..	
Tyldesley-with-Shakerley..	Frequent	..	..
Wardle	5	..	..
Waterloo-with-Seaforth ..	5	..	..
Westhoughton	Casual	..	..
Whitefield	6	10	..	
Withington	4	..	..
Withnell	3	3	..	
Worsley.....	15	8	1	
Bury (R.).....	19	..	..
Fylde (R.).....	1	..	..
Total	1784	..	33	

Scavenging and Refuse Removal.—Scavenging is described as “satisfactory” in 117 districts, “fair” in 10, and “not satisfactory” in 8. The latter districts include Leigh (B.), Rainford, St. Annes-on-the-Sea, Blackburn (R.), Chorley (R.), Lancaster (R.), except Galgate, Warton, and Thurnham; Sefton (R.), except West Derby; and West Laneashire (R.), except Ainsdale, Aughton, and Formby. This work is carried out by the employces of the Authorities in 95 districts, by contract in 22, partly contracted for in 10, and in 8 districts the owners or occupiers undertake the responsibility. In Burnley (R.) the whole of the townships are scavenged by the Council’s own workmen, and the Surveyor reports that the expense is slightly greater, but the regularity and efficiency of the work more than compensates the increased expenditure. Several Medical Officers of Health report that complaints are made respecting the objectionable system of “tipping” refuse, and suggest the provision of suitable destructors as a more preferable way of getting rid of the nuisance.

During the year, 3,562 privy middens and 336 pail closets have been converted to water closets, and 37 conversions to pail closets have taken place. Great activity in

this direction is being shown in Aeerington (B.), Ashton-under-Lyne (B.), Atherton, Bacup (B.), Eccles (B.), Haslingden (B.), Heywood (B.), Levenshulme, Middleton (B.), Oswaldtwistle, Rawtenstall (B.), Stretford, Swinton and Pendlebury, Turton, and Tyldesley-with Shakerley. At Rawtenstall (B.), the Corporation make an allowance of £2 for each 'sanitary' closet converted, and £1 for each 'insanitary' closet. The Medical Officer of Health for St. Annes-on-the Sea states that "the conversion of common privies, many of which are still to be found about the district, and are undoubtedly a nuisance and danger, has not, in spite of the endeavours of the sanitary officials, and the inducement of the Council by giving £2 towards the cost of alteration, made that progress which one could have desired, only 7 having been converted during the year." Dr. Fisher (Lytham) says many privy middens remain "a great nuisance and a danger to health."

House Drainage, Sewerage, and Sewage Disposal.

Special mention is made in the appended summaries to the position of each district in respect of the drainage, sewage disposal, &c. During the year under review considerable improvements in regard to sewage treatment or sewerage have been effected in the County districts; in some cases involving considerable expenditure, viz. :— Aeerington (B.), £10,000 borrowed for sewerage Baxenden; Ashton-in-Makerfield, works extended; Ashton-under-Lyne (B.), new tanks and filters provided; Brierfield, storm-water filter completed; Clitheroe (B.), new tanks completed; Colne (B.), £13,000 expended on extensions at outfall works; Swinton and Pendlebury, new tanks and 19 contact beds brought into operation; Worsley, two precipitation tanks and 20 acres of land laid out for filtration, &c. The joint sewerage scheme for the districts of Bispham-with-Norbreek, Thornton, and Carleton, at a cost of £36,000, will shortly be completed. In addition to the above the sanction of the Local Government Board has been obtained for purposes of

sewering and the provision or improvement of sewage disposal works as follows:—Chorley (B.), £4,400 for works at Botany; Clayton-le-Moors and Great Harwood, £6,500 for laying out and providing filters at the joint outfall works; Darwen (B.), £12,000 for new tanks and sprinkler filters; Middleton (B.), £6,269 for new bacteria beds; Preston (R.), £11,000 for the sewerage and sewage disposal scheme for the township of Penwortham; West Lancashire (R.), £41,000 for the purpose of sewerage the township of Formby, &c. Applications have also been made to the Local Government Board by Heywood (B.) for sanction to a loan of £21,500 for extension of the existing works; Hindley, £28,000 for new outfall sewers and additions to sewage works; Horwich, £12,000 for sprinkler filter beds and sludge presses; Nelson (B.), £25,000 for the completion of the works and the purchase of additional land; Preston (R.), £3,000 for works of sewerage and sewage disposal at Grimsargh, and £400 for additions to the existing sewage works at Ribchester.

In the County districts which come within the area under the control of the Mersey and Irwell Joint Watershead Committee (63 in number), 62 sewage works are now in operation, and one under consideration. The Ribble Watershead containing 43 County districts has in operation 61 sewage works; 3 have been completed during the year, and 3 are in course of construction. Seven schemes have been sanctioned by the Local Government Board for alteration or extension. Although much has been successfully done in the two watersheds to improve the condition of the rivers many of them are still highly polluted, and the storm-water overflows add their quota to the pollution.

The nuisance due to imperfect sewer ventilation has been considerably reduced by the provision of ventilating shafts, and in certain districts—Clitheroe (B.), Fleetwood, Lytham, Poulton, Prestwich, Barton-upon-Irwell (R.), &c.—the sewers

have been periodically flushed. In Heywood (B.) numerous complaints have been received of foul exhalations from some of the manholes in the town. The practice of blowing off steam into the sewers has diminished considerably, but not altogether stopped. As this is a distinct danger to the community the offenders should be compelled to discontinue the practice. At Radcliffe there are 1,280 untrapped street gullies, and complaints are often made as to the stench arising from these gullies, and also from the street manholes. More ventilating shafts and a regular system of flushing and cleansing would, to some extent, remove the cause of complaint.

Drain testing has been carefully attended to in the following districts :—Blackpool (B.) 2,930 house drains tested ; Eccles (B.) smoke test applied to 348 house drains, and 187 were opened for inspection ; Great Crosby 278 drains of premises tested ; Heaton Norris 27 house drains smoke tested ; Southport (B.) 369 house drains tested ; Swinton and Pendlebury 961 house drains inspected ; and Waterloo-with-Seaforth 573 house drains smoke tested, and school drains flushed once a month.

Water Supply.—In the summarised reports will be found references to the water supply of each district, and year by year the County in this respect shows much improvement. It is satisfactory to note that the Medical Officer of Health, Rawtenstall (B.), is of opinion that “ the public supply of the Bury and District Joint Water Board gave less reason for complaint than for several years back. The quantity was abundant and the quality generally good. The filtering beds at Clowbridge and Cloughbottom are nearing completion.”

Some of the Rural Councils have shown commendable activity in supplying their districts with water, but in others action in this direction is required, for instance :—

Burnley (R.).—Plans have been prepared for a scheme to supply water to several villages in the township of Cliviger, at

an estimated cost of £5,000, and a scheme is in hand for an additional supply at Briercliffe from Boulsworth End.

Chorley (R.).—Public supplies have been provided at Coppull, Whittle-le-Woods, and neighbouring townships. Anderton and Heath Charnock have also good supplies, but the western portion of the district, including Charnock Richard, Weleh Whittle, Euxton, Eccleston, Mawdesley, Bretherton, &c., is badly in need of a pure water supply. The Surveyor has drawn up a scheme estimated to cost £21,000 for supplying these townships.

Clitheroe (R.).—No progress has been made during the year in the matter of improving water supplies, with the exception of a few cottages at Hurst Green. The quality of the water supplied to the village of Pendleton was complained of in the summer. The supplies to the various farms present the greatest difficulties. In the neighbourhood of Chipping there is a great want of a comprehensive scheme.

Garstang (R.).—The special Water Committee formed to carry out a conjoint scheme have taken an immense amount of trouble to obtain a good and wholesome supply of water, but so far without success. The difficulty appears to be the inability of the Council to arrange terms with the Fylde Water Board.

Lancaster (R.). —The supply to Cockerham and its adjacent farms is much in the same condition as formerly. Some few alterations have been made, but the scheme for a public supply is still unaccomplished. The provision of a public supply for Thurnham has not made any progress, and appears "as far off as ever." Silverdale and Priest Hutton are also badly in need of a satisfactory water supply.

Sale of Food and Drugs Acts — The following is an extract from the report of Dr. Campbell Brown, the Public Analyst for the Administrative County, on the proceedings taken under the Sale of Food and Drugs Acts :—

“During the year, 3,124 samples have been analysed, including 2,843 submitted by Superintendents of Police, 71 by the Special Inspector, and 210 by Inspectors for Local Authorities and Private Purchasers.

“Of these, 232 were found to be offences. They are classified as follows:—

1046 samples of Milk and Cream. . of which 76 were offences

511	„	Butter	„	30	„
4	„	Bread and Flour.	„	0	„
98	„	Tea, Coffee, and			
		Cocoa	„	1	was an offence
347	„	Small Groceries. .	„	33	were offences
29	„	Beer and Stout . .	„	0	„
689	„	Wines and Spirits.	„	56	„
41	„	Confectionery and			
		Jam	„	6	„
18	„	Drugs	„	0	„
341		Miscellaneous Samples . .	„	30	„

3124 Samples analysed,	„	232 were offences
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“The proportion of offences to total samples is 7·42 per cent. A tabular statement of the prosecutions is appended.

“The total number of prosecutions was 151 with 111 convictions. Of these, 128 cases with 90 convictions were by the police; 21 prosecutions with 20 convictions by the special officer of the County Council; and, so far as has been ascertained, 2 prosecutions with 1 conviction by a District Council.

“The penalties varied from 1s. to £20. The average penalty was £2 4s. 4d., again slightly less than last year.

“The traces of arsenic which were still found in beer last year owing to imperfect cleaning of the malt have now almost entirely disappeared, and beer in the County is now purer than it has probably been during the greater part of last century.

“Several classes of adulteration deserve comment this year. The first is the growing custom of preventing stale food from disclosing its inferior quality by adding unjustifiable preservatives, which merely preserve the food in the sense of preventing it from becoming offensive by decomposition. The practice has extended from butter to milk, jam, varieties of unfermented drinks, shrimps, sausages, and many other articles. This practice, if not checked, will soon very seriously impair the digestive powers of the community, and consequently the strength of the nation. In one set of cases of this kind it has lately been the practice to import foreign shrimps, preserved from decomposition by means of borates, and to palm them off as fresh English shrimps. This practice is not only injurious to the consumer, but also to the honest trader; yet the foreign adulterator and the dishonest middleman have been encouraged by seeing the County penalised to the extent of £50 for trying to do its duty by endeavouring to secure that the shrimps so adulterated shall be labelled as being mixed with borax.

“The dangerous practice of preserving milk by formalin has been pretty successfully suppressed, and when cases occur the vendors are usually convicted. Cases of jam mixed with salicylic acid are still *sub judice*, and therefore remarks must be postponed till next year.

“The price of pepper has been rising steadily for some years past, with the usual result that adulteration has been in the increase. The first re-appearance of olive stones as an adulterant in pepper occurred in the Borough of Blackburn, which gave the County officers a warning, with the result that many convictions took place for the same offence within the Administrative County of Lancaster, and, in all these cases, so far as your Analyst is aware, the adulteration has been traced to one firm. The remarkable feature is that, although undoubtedly these same adulterated peppers are being sold in other parts of the country, no prosecutions have been heard

of except in Lancashire. Possibly analysts elsewhere may not be aware of the practice of reducing the percentage of olive stones by mixing a bulk containing 10 per cent. with inferior pepper and other substances, so as to reduce the proportion of each adulterant to 2 or even 1 per cent.

“A form of adulteration which occurred on a small scale during a former period of high priced pepper—about 16 years ago—is now very prevalent, and consists in the admixture with white pepper of more or less bleached black pepper husks, a substance really as worthless as sawdust, but carrying a nominal commercial price of 2d. per pound. It is satisfactory to know that there have been several convictions, and that an appeal to Quarter Sessions at Preston against a conviction was dismissed.

“Since the beginning of the year the Board of Agriculture have fixed a limit of water in butter at 16 per cent., which is practically the same figure that your Analyst has consistently contended for in previous years. The butter adulterator has now changed his tactics, and instead of employing 20 per cent. or upwards of water with 5 per cent. of salt, he substitutes 16 per cent. of water with 9 per cent. of salt. This reduces the quantity of real butter to the same figure as before.

“Attempts have been made this year to suppress a very old practice of selling under the name of “brandy,” “port,” and so on, articles which are not the product of the grape, but manufactured from spirits and other ingredients in this country. A difficulty which is apt to unduly interfere with the success of the prosecution is that for revenue purposes solely, the Excise Department allows spirits and wine to pay duty and go out of bond on permits which bear the name “British Brandy,” “British Port,” and similar names. These articles are manifestly fraudulent, but so long as they pay duty the Excise Department is naturally satisfied. At the

same time the use of these names on permits and otherwise gives the article a false appearance of legal recognition which is perhaps apt to mislead the Court when the articles come before the Magistrates under the Sale of Food and Drugs Acts.

“The state of law with regard to false warranty in cases of adulteration has always been most unsatisfactory, and affords a means by which guilty persons escape scot free. The Prosecuting Solicitor has quite recently endeavoured to overcome some of these difficulties by applying for summonses under the Merchandise Marks Act.

“Your Analyst begs to call attention to the great difficulties that sometimes arise owing to the quite useless extension of the 28 day limit for the issue of summonses to articles which are not perishable. In all cases of new forms of adulteration, many samples besides the one purchased have to be procured and analysed, and researches undertaken sometimes of an elaborate character, in order to get information which is necessary to form a judgment regarding the quality or purity of an article. These researches cost the analyst a great deal both in time and money and cannot always be satisfactorily finished within 28 days. It is right that the 28 day limit should hold in the case of substances which are liable to decompose, but no real injustice is done by allowing a prosecution to take place for non-perishable articles after a longer time than one month has elapsed.”

TABLE SHOWING THE PROCEEDINGS IN EACH POLICE DIVISION AND BY OTHERS, 1903.

Divisions.	Total Samples.	No. of Offences.	Percentage of Offences.	No. of Prosecutions.	No. of Convictions.	RESULT OF PROSECUTIONS.	Penalties.	Costs.	Remarks.
N.L.D.	63	...	...	1	1	One fined £1 and costs	£ s. d. 1 0 0	£ s. d. 1 18 0	
S.L.D.	78	...	...	1	1	One costs only ... ..	.....	0 11 0	
G.D.	67	...	...	...	...	.....	.....	.....
Km. D.	124	...	...	2	2	One fined 10s., and one 5s. and costs	0 15 0	3 6 1	
L.B.D.	118	...	...	13	3	Three fined £1 and costs, one dismissed, and nine cases pending	3 0 0	2 5 8	
H.B.D.	154	...	...	5	5	One fined £5, one £2, two fined £1, one 10s. and costs ...	9 10 0	26 12 6	
Rs. D.	86	...	...	3	3	One fined £20, one £5, and one 20s. and costs... ..	26 0 0	19 4 2	
Ac. D.	132	...	...	16	11	Three fined £5, five £2 and costs, three costs only, and five withdrawn	25 0 0	16 16 4	
L.D.	155	...	...	6	4	One fined £3, one 20s. and costs, one 10s. and costs, one costs only, one dismissed, and one withdrawn	4 10 0	0 15 6	
Bn. D.	202	...	...	11	8	One fined £5, two £2, two £1, one 10s. and costs, two costs only, and three withdrawn... ..	11 10 0	14 14 3	
By. D.	160	...	...	9	6	One fined £20, one £2, one 20s., two 10s. and costs, one costs only, one pending, two withdrawn	24 0 0	4 10 11	
R.D.	221	...	...	11	7	One fined £1, one 10s. 6d., three 10s., one 5s., one 2s. 6d. and costs, two satisfied the Court, two withdrawn	3 8 0	4 8 5	
A.D.	147	...	...	12	12	One fined £10, three £2, three £1, one 10s. 6d., one 10s., one 5s. 6d., one 5s. and costs, and one costs only ...	20 11 0	16 12 11	
M.D.	518	...	...	18	11	One fined £5, one £2, two £1, five 10s., one 5s., one 1s. and costs, one produced warranty, five adjourned <i>sine die</i> , and one dismissed with £50 costs against the County ...	11 16 0	9 4 1	
S.D.	79	...	...	3	3	One fined £2, two fined 5s. and costs	2 10 0	7 10 6	
O.D.	91	...	...	2	2	One fined £10, and one £1 and costs	11 0 0	2 19 7½	
P.D.	78	...	...	1	1	One fined £2 and costs	2 0 0	1 2 6	
Ws. D.	75	...	...	5	5	One fined £10, three fined £1 and costs, one costs only ...	13 0 0	4 3 2½	
W.D.	186	...	...	4	1	One fined £5 and costs, two produced warranty, one dismissed owing to an informality	5 0 0	1 13 0	
Wgn. D.	109	...	...	5	4	One fined £10, two fined £1, one costs only, one withdrawn because previous case was against same defendant ...	12 0 0	4 4 3	
	2843	...	...	128	90		186 10 0	142 12 11	
	71	...	...	21	20	One fined £20, two £10, one £5, two £3, one £2, four £1, three 10s., two 5s., one 2s. 6d., one 1s. and costs, two costs only, one dismissed	59 3 6	Not reported	
Total by County Officers ...	2914	221	7.58	149	110		245 13 6	142 12 11	
Inspectors for District Councils and Private Purchasers... ..	210	11	5.4	2	1		0 10 0	1 0 6	
Total	3124	232	7.42	151	111		246 3 6	143 13 5	

SUMMARY OF THE REPORTS

RECEIVED FROM

MEDICAL OFFICERS OF HEALTH

OF

URBAN AND RURAL SANITARY AUTHORITIES

FOR THE YEAR 1903.

URBAN SANITARY DISTRICTS.

Abram.—(Area in acres, 1,984; Estimated Population, 6,556.)
—*Medical Officer of Health*, NATHAN HANNAH, L.R.C.P.E.;
Salary, £40.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	41·1 ...	38·3 ...	43·8
Death-rate	22·8 ...	19·3 ...	22·1
Zymotic death-rate.....	4·72 ...	3·27 ...	4·31
Phthisis „	0·91 ...	0·31 ...	1·01
Respiratory „	5·18 ...	4·83 ...	5·12
Rate of deaths under 1 year to 1,000 births.....	207 ...	174 ...	200

As compared with the preceding decennial period, the birth-rate for the year under review shows a reduction equal to 2·7 per 1,000 of the population, but is 2·8 above the rate recorded last year. The mortality statistics cannot be regarded as satisfactory, the general death-rate being fractionally higher than the mean of the 10 years 1893-1902, and 3·5 above the rate for 1902. The zymotic and respiratory rates exceed considerably the County average, and the infantile mortality is excessive. Dr. Hannah once again points out how the latter rate is largely influenced by “improper dieting.” Diarrhœa was very prevalent, and a special leaflet was distributed from house to house advising parents and others in regard to “infant feeding and other necessities for minimising trouble therefrom:” 10 deaths were due to this disease, equal to a rate of 1·52, and all the deaths were of children under 12 months old. Measles also contributed 10 deaths, and prevailed most extensively in the month of May, in the Plank Lane district, St. Andrew’s School being closed. Whooping cough gave rise to 2 deaths. Of the notifiable diseases scarlet fever had by far

the greatest prevalence, 109 cases being notified and 6 deaths resulted, as compared with 20 cases and 3 deaths in the previous year. Nearly one-half the total cases occurred during June, July, and August. Indiscriminate visiting was an important factor in the spread of the infection, and a special handbill was printed warning householders of the gravity of this offence. The Medical Officer of Health points out in his report that the district is at present lacking in two of the usual precautionary means for controlling scarlet fever, viz., hospital isolation and efficient disinfecting appliances. Typhoid fever was not nearly so prevalent as in the year before, only 9 cases (2 deaths) taking place. Diphtheria contributed 2 cases 1 death, erysipelas 14 cases, and chicken-pox 5 cases.

Hospital Accommodation.—In the early part of the year temporary accommodation for small-pox was provided, and it may be added, that this district is one of the constituent Authorities under the Order of the County Council for providing a small-pox hospital for 14 of the districts in this neighbourhood. It is gratifying to record that a building for the isolation of ordinary infectious cases is nearing completion.

Disinfection.—Infected houses are stoved with sulphur, but appliances for disinfecting clothing, &c., are not available.

Water Supply obtained from a reservoir in the locality, is supplied by the Liverpool Corporation.

Sewerage, Scavenging, &c.—"The effluent from the sewage works continues to give satisfaction. Six tanks, with a capacity of 42,000 gallons, and 5 acres of land are used in the sewage treatment." It is hoped that the long continued nuisance caused by the pollution of Borsdane Brook by sewage from a neighbouring district will shortly be abated, as a scheme has been prepared for improving the sewage works complained of. Scavenging is satisfactorily carried out in one ward by the Authority, and in three wards by contractors.

Sanitary Inspection.—Several cases of over-crowding have been dealt with, but many of the cottages still err in this respect. There are no underground bakehouses. Of the 5 bakehouses 2 required limewashing; of the 7 workshops, 1; and both of the slaughter-houses required the same attention. Dairies and cowsheds—subject to regulation—were kept under observation. The Inspector (Mr. Eatock) reports on nuisances dealt with on 234 premises, to secure the abatement of which 51 notices were required. He inspected 16 canal boats, all of which conformed to the regulations. No smoke observations were taken.

Accrington (Borough).—(Area in acres, 3,427; Estimated Population, 44,000.)—*Medical Officer of Health*, ARTHUR GREENHALGH, M.R.C.S., D.P.H.; *Salary*, £100.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	21·9 ...	23·5 ...	25·3
Death-rate	14·7 ...	13·7 ...	15·5
Zymotic death-rate	1·84 ...	1·10 ...	1·85
Phthisis „	0·93 ...	1·58 ...	0·94
Respiratory „	2·31 ...	3·95 ...	3·17
Rate of deaths under 1 year to 1,000 births.....	130 ...	130 ...	167

The birth-rate is the lowest recorded during the last 10 years, and is 3·4 per 1,000 of the population below the mean of that period. The general death-rate is 1·0 higher than last year, but is below the mean of the preceding decade. The number of infants who have failed to live to the end of their first year of life is lower than has been recorded for nine years. Dr. Greenhalgh again advocates the appointment of a lady Inspector, whose duties would be to give advice on the feeding and care of young children, and endeavour to bring about an improvement in domestic hygiene. Towards the end of the year measles in epidemic form made its appearance and

spread rapidly throughout the borough. Most of the infant schools were closed for varying periods, and handbills describing the natural history of the disease, with suggestions how to act when it occurred, were distributed to all the schools. In all 35 deaths were registered as due to this cause, the large majority of which occurred in children three years of age and under. Summer diarrhoea, or zymotic enteritis, has been comparatively absent, due, in a great measure, to the heavy rainfall, and whooping cough gave no trouble. To the former disease 11 deaths were attributed, and 1 death to the latter. Small-pox, which made its appearance in November of last year, was present until July. Altogether 47 cases were notified, 43 in the present year, one of which had a fatal termination. All the patients were removed to hospital. Scarlet fever was more than usually prevalent, 275 cases being notified and 21 deaths resulted therefrom, as compared with 115 cases 4 deaths last year, and 154 cases 9 deaths in 1901. As there is no hospital accommodation, except for small-pox, all these cases had to be treated at home, and Dr. Greenhalgh in his report states—"at the present time I am sure that the Council has no disposition to provide for hospital isolation of this disease." The other notifiable diseases present were as follows:—enteric fever 24 cases 8 deaths, diphtheria and membranous croup 29 cases 4 death, erysipelas 6 cases, and puerperal fever 2 cases. Arrangements have been made for the voluntary notification of phthisis, but "these are not acted upon satisfactorily by the local medical men."

Hospital Accommodation.—The only accommodation available is for small-pox—24 beds, and this was used for the treatment of 43 patients.

Disinfection.—A new high pressure steam apparatus has been provided during the year, and the old dry heat appliances have been retained for fumigating certain articles that might be damaged by steam. Articles disinfected numbered 1,605, and 291 rooms were fumigated either with sulphur or formalin.

Water Supply is obtained from the Accrington, &c., Joint Board's waterworks, and the water is described as "very clear and of good quality."

Sewerage, Scavenging, &c.—Sewage is treated at the joint outfall works at Coppy Clough, by septic tanks, sprinkler filters, and small sedimentation tanks. During the year improvements have been made at the works, and sanction has been obtained to borrow £10,000 for sewerage the Baxenden district. Several samples of effluent taken by the Ribble Joint Committee have not given satisfaction. The admission of steam into the sewers still continues. Scavenging is satisfactorily carried out under the supervision of the Inspector, the refuse being burnt in the destructors.

Sanitary Inspection.—Bakehouses, 9 in number, are receiving special attention, and very probably 3 at least will be closed. The public abattoirs and the 5 private slaughter-houses receive the constant care of the Corporation officials. Considerable improvements have been made in several of the cowsheds, but still the condition of many leaves much to be desired. New regulations came in force in May. Special attention was paid to the common lodging-houses in view of the prevalence of small-pox; cleanliness was strictly enforced, and the houses were, on the whole, found to be very well conducted, and the owners willingly complied with the instructions given by the sanitary officials. Factories and workshops, and premises where offensive trades are carried on came under strict supervision. All the schools in the borough received periodical inspection. The Inspector (Mr. Diggle) reports on a large amount of work carried out in his department, including notices served 332, blocked drains cleansed 981, other drains repaired 101, defective sinks and waste-pipes remedied 90, water closets, ashpits, &c., repaired 126, closets altered from old privies 5, closets altered from the pail system 94, smoke observations 10, &c., &c.

Adlington.—(Area in acres, 1,062; Estimated Population, 4,620).—*Medical Officer of Health*, F. J. A. MAYES, M.R.C.S.; *Salary*, £20.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	31·3 ...	30·6 ...	31·2
Death-rate	11·0 ...	14·5 ...	14·8
Zymotic death-rate.....	0·43 ...	2·82 ...	2·01
Phthisis „	nil. ...	0·43 ...	0·69
Respiratory „	2·38 ...	2·39 ...	3·04
Rate of deaths under 1 year to 1,000 births..... ..	110 ...	113 ...	134

The birth-rate varies but fractionally from the average of previous years, while the death-rate is the lowest recorded since 1897, and 3·8 per 1,000 below the mean of the 10 years 1893-1902. The zymotic and infant rates are more favourable than for several years past, and altogether the mortality statistics may be considered satisfactory. Dr. Mayes states that in his opinion the infant rate would be considerably reduced if children were not left to be fed on other than natural food throughout the day whilst the mother is away working in the factory. Diarrhœa gave rise to 2 deaths, but measles and whooping cough did not contribute a single death. The number of infectious diseases notified (78) is reported as excessive for the district, and “no doubt largely due to insanitary conditions in some parts, and also to the overcrowding of dwellings.” Scarlet fever was responsible for 61 cases, typhoid fever and diphtheria 3 cases each, erysipelas 8 cases, continued fever 2 cases, and puerperal fever 1 case. During the months of October and November an outbreak of mumps occurred which showed signs of rapidly spreading and becoming epidemic, so it was deemed advisable to close the Temperance Hall School for a short period, and this action proved quite successful. The Medical Officer of Health reports that, in his opinion, when such diseases as mumps, measles, &c., are prevalent, it would be very beneficial if the medical

practitioners of the district were instructed to regard, *pro tem.*, such diseases as notifiable.

Hospital Accommodation.—The joint hospital at Heath Charnock was used for the isolation of 37 scarlet fever patients and 1 suffering from diphtheria.

Disinfection.—No apparatus. Houses fumigated with sulphur.

Water Supply, obtained from Blackrod, is, on the whole, good, but in want of filtration.

Sewerage, Scavenging, &c. — Sewage is treated by precipitation and filtration. Sanction of the Local Government Board was obtained to borrow £750 for extension of tanks and filters at the sewage works, the construction of which has recently been commenced. In June, Dr. Mayes drew attention to the foul emanations from the sewers, caused, no doubt, by want of flushing. Scavenging is said to be efficiently carried out by the Authority's employees. The disposal of refuse is a troublesome matter, and the Council is recommended to obtain a site for the deposition of refuse farther removed from dwelling-houses than the one at present used. The evils of the privy midden system were again noticeable.

Sanitary Inspection. — Many main streets, and also most of the side streets, and a very large number of back yards which are ill-paved require attention from the point of view of sanitation. Bakehouses, slaughter-houses, factories and workshops, and dairies and cowsheds are apparently in "good" condition, but the latter are not subject to regulations. During the year 12 privy middens were abolished and replaced by water closets. The Inspector (Mr. Farnworth) reports that he wrote 20 letters and gave 20 verbal notices relating to nuisances, all of which received attention. No smoke observations were taken.

Allerton.—(Area in acres, 1,589; Census Population, 1,101).
 —*Medical Officer of Health*, C. STUART PETHICK, M.B.;
Salary, £20.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	21·7 ...	15·4 ...	21·4
Death-rate	9·9 ...	5·4 ...	9·7
Zymotic death-rate	nil. ...	0·90 ...	0·90
Phthisis „	nil. ...	nil. ...	0·31
Respiratory „	0·90 ...	nil. ...	1·72
Rate of deaths under 1 year to 1,000 births.....	125 ...	nil. ...	79

During the year under review 24 births and 11 deaths were recorded, 3 of the latter being amongst children under the age of 1 year. No deaths took place from any of the seven principal zymotic diseases. Five cases of infectious disease were notified, all of scarlet fever. Three of these occurred in one house and were treated at home. In February Dr. Pethick discovered a child attending school whilst suffering from the disease, and as a precautionary measure the school was closed for ten days, and thoroughly cleansed and disinfected. The infection in the fifth case was traced to an outside district. These two patients were removed to hospital.

Hospital Accommodation.—The uncertainty attending the admission of cases into the Liverpool hospitals led the Council to enter into an agreement with the Whiston Rural Council for the reception of patients from their district. Under an agreement the Council pays a sum of £25 per annum to the hospital for small-pox and £10 per annum to the ordinary infectious disease hospital, and an additional charge of 3s. per diem for maintenance and medical treatment of each patient admitted. As stated above, 2 cases were removed.

Disinfection.—The above mentioned agreement also covers the use of the Rural Council's disinfecting apparatus. Six houses were fumigated.

Water Supply obtained from Liverpool.

Sewerage, Scavenging, &c.—Sewage is discharged into the River Mersey. Scavenging receives attention at the hands of the Authority.

Sanitary Inspection.—One hundred and eighty-five premises were inspected, and 3 notices were served for the abatement of nuisances. Eight privies were repaired, 5 houses cleansed and whitewashed, 4 drains trapped, &c. Dairies and cowsheds and the only bakehouse are regularly inspected.

Ashton-in-Makerfield.—(Area in acres, 6,251; Estimated Population, 19,611).—*Medical Officer of Health*, NATHAN HANNAH, L.R.C.P.E.; *Salary*, £80.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	38·7 ...	38·8 ..	42·2
Death-rate	16·4 ..	19·5 ...	19·6
Zymotic death-rate	3·26 ...	3·81 ...	3·35
Phthisis „	0·30 ...	0·52 ...	1·10
Respiratory „	2·60 ...	4·39 ...	3·99
Rate of deaths under 1 year to 1,000 births.....	171 ...	176 ...	181

As compared with the mean of the 10 years 1893-1902, the birth and death rates show a decrease of 3·5 and 3·2 per 1,000 of the population respectively, and are the lowest recorded during the period mentioned. The zymotic and infant rates are also below the average of previous years, but remain still too high. Measles, which last year was extensively epidemic and caused 42 deaths, gave rise to little trouble in the year under review, only 4 deaths taking place. Diarrhœa added considerably to the zymotic rate, there being a mortality of 1·47 per 1,000 (29 deaths) from this cause, infants suffering much more than usual. Dr. Hannah states that careful observation and enquiry make it clear that improper feeding

largely accounts for not only diarrhœa, but also enteritis. Notifications were far more numerous than for some years past, being 397, against 175 last year, and 202 in 1901. Small-pox broke out in October, but fortunately only 3 cases occurred; 1 terminated fatally. In case any mild attacks might occur and be mistaken for chicken-pox, this disease was made notifiable, and 40 cases were reported. Scarlet fever, with 257 cases and 9 deaths, has been a source of great anxiety, the usual factors favouring its dissemination, viz., visiting at infected houses, non-recognition of mild forms, and want of early removal and inability to deal effectively with infected clothing through the absence of proper disinfecting appliances. The force of the epidemic was felt in July, August, and September, and to meet the demands for hospital isolation the temporary small-pox hospital at Edge Green was utilised. Typhoid fever was also in excess of previous years, and contributed 32 cases 6 deaths. Diphtheria and membranous croup were responsible for 40 cases 5 deaths, erysipelas 17 cases, and puerperal fever 8 cases.

Hospital Accommodation is again described as "insufficient," but the extensions referred to last year will now shortly take place. The 3 small-pox cases were isolated in hospital, as well as 91 cases of scarlet fever, 9 of typhoid fever, and 2 diphtheria. This district is included in a joint scheme for the provision of small-pox hospital accommodation.

Disinfection.—No apparatus. Rooms fumigated with sulphur or formalin numbered 324.

Water Supply, obtained partly from Liverpool and partly from the Council's own reservoir, continues satisfactory. Cottages at "Old Florida" have no water except from a shallow surface well liable to much pollution.

Sewerage, Scavenging, &c.—The sewerage system is subject to dislocation and blocking through subsidence by colliery workings. Extensions at the outfall works have been carried

out, and the effluents are reported as "uniformly good." Scavenging, carried out by the Authority, is said to be satisfactory. The condition of new streets is reported as "terrible," and they must be regarded "as nuisances, injurious to health, and some of them possibly dangerous to pedestrians."

Sanitary Inspection.—A number of back-to-back cottages were converted into through houses, and several, unfit for habitation, were demolished. Slaughter-houses, 4 in number, are kept clean and in good order, and bakehouses give satisfaction. Dairies and cowsheds were kept under constant supervision, and 16 out of the 47 were found to require cleansing and linewashing. Factories and workshops also received attention and several minor improvements were effected. Twenty-two privies were converted to the pail system, and several ashpits improved in structure. The Inspector (Mr. Gamble) reports on 292 nuisances dealt with. No smoke observations were taken.

Ashton-under-Lyne (Borough).—(Area in acres, 1,346; Estimated Population, 44,232.)—*Medical Officer of Health*, W. H. HUGHES, M.R.C.S.; *Salary*, £130.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	26·2 ...	27·9 ...	27·9
Death-rate	20·0 ...	19·1 ...	20·7
Zymotic death-rate	2·71 ...	1·48 ...	2·24
Phthisis ,,	1·46 ...	1·57 ...	1·99
Respiratory ,,	3·21 ...	3·91 ...	4·46
Rate of deaths under 1 year to 1,000 births.....	200 ...	142 ...	192

The birth-rate shows a decrease of 1·7 per 1,000 of the population as compared with 1902, but the death-rate is fractionally increased. The Ward death-rate varied from 18·9 in Portland Place Ward, 18·2 Market Ward, to 15·9 St. Michael's Ward, and 15·8 St. Peter's Ward. The rate of

infant deaths under 1 year is excessive, and every effort should be made to check this serious loss of life. Dr. Hughes says "a very large proportion of this mortality is due, directly or indirectly, to improper feeding, but there are many other contingencies, such as poverty, insanitary conditions, &c." The depôt provided by the Corporation in May, 1901, for the sale of sterilized and modified milk progresses satisfactorily, the number of infants taking the modified milk averaged 37 daily, and during the year 83,797 bottles of this milk were sold, and also 34,231 pints of sterilized milk. Two Lady Health Visitors have attended at all houses where children had been born giving advice as to management and feeding of the infants, and it is pleasing to note that their work is appreciated by the poor people. The zymotic rate is somewhat high, due principally to measles, 49 deaths, and whooping cough and diarrhœa 29 deaths each. The epidemic of small-pox which was introduced by a tramp in 1902 has continued more or less ever since, no less than 150 cases, with 3 deaths, being reported; one of the deaths was that of a man belonging to Denton, but who contracted the disease in the Ashton work-house. All the cases were removed to hospital. Two prosecutions were instituted for wilful exposure whilst suffering from this disease. Scarlet fever had a diminished prevalence with 52 cases 2 deaths, against 207 cases 14 deaths in the previous year. Typhoid fever contributed 43 cases 4 deaths, diphtheria 12 cases 4 deaths, erysipelas 11 cases, puerperal fever 3 cases, and continued fever 1 case.

Hospital Accommodation.—During the year two new wards—12 beds—were erected at the hospital. One hundred and fifty-nine cases were treated, viz., small-pox 150, and typhoid fever 9. The Corporation have secured a plot of land at Hartshead, and a number of the neighbouring authorities have agreed to combine with them, for the purpose of building thereon a permanent small-pox hospital.

Disinfection. — Mason's apparatus available. Rooms

fumigated either with sulphur or formalin numbered 1245.

Water Supply, obtained from the joint waterworks, is of good quality.

Sewerage, Scavenging, &c.—The new tanks and filters provided at the outfall works have now been put into operation. The sewage is treated in precipitation tanks and by double contact beds. A special description of the new works is given in the report. Scavenging is carried out under the supervision of the Chief Inspector, and details are given of the vast amount of work performed.

Sanitary Inspection.—Thirty-two single houses were condemned as unfit for human habitation, and 11 demolished. Frequent inspections were made of the bakehouses, slaughter-houses, lodging-houses, and dairies and cowsheds, and, as a rule, they were found to comply with the bye-laws and regulations. Factories and workshops also came under observation, and a few notices respecting certain improvements were served. A large quantity of diseased meat exposed for sale was seized, and legal proceedings resulted in fines amounting to £55, exclusive of costs. The Borough Analyst examined 101 samples under the Sale of Food and Drugs Acts, and reported all as pure and free from adulteration. A number of samples of milk and ice cream were examined bacteriologically, and one of the latter reported as unfit for consumption, necessitated the stoppage of further sales. Privy closets converted to the waste-water system numbered 1,247, and in addition 227 were replaced by ordinary water closets. The report of the Chief Inspector (Mr. Potter) on the work done in his department includes the following :—

Total number of visits made by the Inspectors ...	12457
„ „ „ house-to-house inspections..	2125
„ nuisances reported.....	2143
„ „ abated	1754
„ notices served.....	656
Smoke observations.....	440

Aspull.—(Area in acres, 1,906; Census Population, 8,388.)—
Medical Officer of Health, L. COOKE, L.R.C.P.; Salary, £35.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	37·6 ...	36·7 ...	35·5
Death-rate	21·2 ...	19·3 ...	18·3
Zymotic death-rate.....	5·12 ...	5·24 ...	3·07
Phthisis ,,	0·83 ...	0·47 ...	0·64
Respiratory ,,	3·81 ...	4·76 ...	4·50
Rate of deaths under 1 year to 1,000 births.....	183 ...	152 ...	160

The birth-rate was the highest recorded since 1894, and the general death-rate, with the exception of 1901, was less favourable than any year in the preceding decade. The zymotic rate was again excessive, and the infantile mortality was very unsatisfactory. Measles became prevalent in the month of February, and continued active until the end of June. Owing to laxity in the matter of isolation the disease obtained a firm footing, and no less than 20 deaths resulted. Dr. Cooke says "it is a difficult matter to limit the spread of measles owing to the fact that it is not notifiable, and that it is looked upon by parents as an inevitable concomitant of childhood." Several schools were closed. Diarrhoea and whooping cough also gave rise to some anxiety, the former contributing 9 deaths and the latter 6. Small-pox was the cause of 9 cases between January and April, and all were promptly isolated in hospital. Efforts to trace the source of the disease were fruitless. A large number of the inhabitants availed themselves of the protective influence of re-vaccination, and "there can be no element of doubt that, in a great measure, to this agency must be attributed the success in checking the progress of the disease." Scarlet fever became active in May, and continued so until the end of the year; altogether 137 cases were notified, and 3 deaths resulted. One

school was closed in consequence of the large number of scholars attacked. Typhoid fever contributed 26 cases 2 deaths, insanitary conditions no doubt being responsible for several cases. Diphtheria and membranous croup caused 23 cases 2 deaths, erysipelas 19 cases, continued fever 1 case 1 death, and puerperal fever 1 case. Chicken-pox was made temporarily notifiable.

Hospital Accommodation is available at Wigan, and 23 cases were removed, viz., small-pox 9, typhoid fever 9, and scarlet fever 5. Aspull is included in the County Council scheme for the provision of a joint small-pox hospital.

Disinfection.—The Wigan Corporation apparatus is used for the disinfection of clothing, bedding, &c. Seventy-five houses and 3 schools were fumigated.

Water Supply, good and abundant, obtained from Bolton.

Sewerage, Scavenging, &c.—Sewage is conveyed to the sewage farm belonging to Wigan. Scavenging, as performed by contract, does not give entire satisfaction, the cleansing of ashpits in certain parts of the township leaving much to be desired.

Sanitary Inspection.—House accommodation is, on the whole, very good, only a few back-to-back houses now remaining; these, together with several dilapidated houses, will be dealt with at an early date. Bakehouses, with two exceptions, are in good order, and the same may be said of slaughter-houses, dairies and cowsheds, and factories and workshops. Four privies underwent conversion to the water-carriage system, and 21 ashpits were remodelled. Canal boats passing through the district are inspected. The Inspector (Mr. Gibson) served 207 notices for the abatement of a like number of nuisances.

Atherton.—(Area in acres, 2,265; Census Population, 16,211.)

—*Medical Officer of Health*, JAMES MARSH, M.B.; *Salary*, £50.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	35·9 ...	37·1 ...	36·7
Death-rate	17·8 ...	17·2 ...	18·7
Zymotic death-rate	4·13 ...	3·02 ...	3·73
Phthisis „	0·80 ...	1·54 ...	1·18
Respiratory „	3·14 ...	3·76 ...	4·53
Rate of deaths under 1 year to 1,000 births.....	180 ...	134 ...	175

As compared with the previous year, the birth-rate shows a decrease of 1·2 per 1,000 of the population, and the death-rate an increase of 0·6; but both averages are fractionally below the mean of the preceding decade. The zymotic rate is above the average and unsatisfactory, and so is the rate of deaths under 1 year to 1,000 births. Measles, the cause of 5 deaths, was prevalent during the early part of the year, and schools were closed in consequence. Dr. Marsh says: “My experience is that school closure has little effect in checking the spread of, measles, as the epidemic is generally well under weigh before I become aware of it. Thus I would again recommend the compulsory notification of the first case occurring in a house.” Whooping cough and diarrhoea must have been rife as 21 and 16 deaths respectively were attributed thereto. Three notifications of small-pox were received, all from the workhouse, and the cases were sent to the joint hospital. Scarlet fever again had a wide spread, with 195 cases 6 deaths, against 159 cases 5 deaths last year. The disease was of a mild type, and this, no doubt, constituted one of the chief sources of the spread, owing to non-recognition of the disorder. Such a case was responsible for the illness of many children attending the school at Hindsford, which had to be closed. Typhoid fever was responsible for 65 cases 16 deaths; several of the cases arose in September through a

contaminated milk supply from a neighbouring district. An Order was issued under Sec. IV. of the Infectious Disease (Prevention) Act, 1890, prohibiting the sale of milk within this district until further notice. Diphtheria and membranous croup contributed 21 cases 3 deaths, erysipelas 41 cases, and puerperal fever 3 cases. The Medical Officer of Health advises the Council to arrange for the voluntary notification of phthisis.

Hospital Accommodation is provided at the joint sanatorium at Astley, where 76 cases were treated from this district, viz., small-pox 3, scarlet fever 59, and typhoid fever 14.

Disinfection.—Mason's steam apparatus is available. Houses and schools are fumigated with sulphur or formalin.

Water Supply, obtained from Manchester and Bolton, is good and abundant.

Sewerage, Scavenging, &c.—Sewage is treated on the Leigh and Atherton joint sewage farm. On one occasion the Mersey and Irwell Joint Committee complained of an unsatisfactory effluent. The Authority carry out scavenging in a satisfactory manner, and the refuse is burnt in the destructor.

Sanitary Inspection.—Bakehouses, slaughter-houses, lodging-houses, dairies and cowsheds on the whole give satisfaction. Two underground bakehouses were closed. Premises inspected under the Factory and Workshops Act numbered 92, the majority being clean and having sufficient air space. Forty-eight new water closets were constructed in lieu of privy middens, 184 new slop-water closets provided, and the ashpits of 120 houses were remodelled. The Inspector served 157 notices, and as a result secured the abatement of 381 nuisances. Two smoke observations were taken.

Audenshaw.—(Area in acres, 1,241; Estimated Population, 7,383.)—*Medical Officer of Health*, F. W. ALLKIN, M.B.; *Salary*, £20 (no claim).

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	24·3	...	29·5	...	26·7
Death-rate	13·5	...	17·1	...	15·8
Zymotic death-rate.....	1·76	...	1·63	...	1·60
Phthisis ,, 	1·21	...	0·54	...	0·90
Respiratory ,, 	2·16	...	2·04	...	3·00
Rate of deaths under 1 year to 1,000 births.....	127	...	156	...	149

The statistics presented by Dr. Allkin are marked by reductions in the birth and death rates of 5·2 and 3·6 per 1,000 of the population as compared with last year, and the latter rate is 2·3 below the mean of the preceding decennial period. The zymotic rate was fractionally higher than in the previous year, but there was a diminution in the number of infant deaths. "If mothers would pay more attention to the cleanliness and proper feeding of children the number would be further reduced." During the latter end of March measles became epidemic in part of the district, and it was found necessary to close two schools for a short period. Seven deaths were due to this disease, 2 to diarrhœa, and 1 death to whooping cough. Only 19 notifications were received, the lowest number recorded since the adoption of the Act in 1893. One case of small-pox was notified at the end of February, the infection being contracted in a neighbouring town. Scarlet fever contributed 7 cases, typhoid fever 3 cases (2 deaths), diphtheria 3 cases (1 fatal), erysipelas 4 cases, and puerperal fever 1 case.

Hospital Accommodation is said to be available at Hyde, but only the small-pox case was removed. It is proposed to join with several neighbouring authorities for the erection of a small-pox hospital.

Disinfection.—Dr. Allkin recommended the Council, in his last annual report, to provide some efficient apparatus, but so far nothing has been done.

Water Supply obtained from the joint waterworks in Swineshaw Valley.

Sewerage, Scavenging, &c.—The whole of the intercepting sewer has been laid, and only a few connections have now to be made. The new joint sewage works are finished, and the greater portion of the district's sewage is now being treated by precipitation and intermittent downward filtration. Scavenging, as performed by contract, appears to give satisfaction.

Sanitary Inspection.—Dr. Allkin again reports that many old houses exist which ought to be improved, more especially in connection with the closet accommodation. Bakehouses, slaughter-houses, dairies, and cowsheds received regular inspection, with the result that at several of the latter radical changes are about to take place. The air space required by the regulations is only 400 cubic feet per cow. Notices served for the abatement of nuisances amounted to 84, and nearly all were complied with. Several smoke observations were taken.

Bacup (Borough).—(Area in acres, 6,120 ; Estimated Population, 22,500).—*Medical Officer of Health*, JOHN BROWN, M.D., D.P.H. ; *Salary*, £100.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	24·5	...	24·8	...	24·0
Death-rate	19·5	...	16·4	...	17·8
Zymotic death-rate.....	2·44	...	0·71	...	1·48
Phthisis ,,	1·15	...	1·20	...	1·15
Respiratory ,,	4·08	...	3·68	...	4·13
Rate of deaths under 1 year to 1,000 births.....	139	...	135	...	160

The birth-rate varies but fractionally from previous years,

but the death-rate is 1·7 per 1,000 above the average of the 10 years 1893-1902, and exceeds by 3·1 the rate for last year. The infantile mortality is fairly satisfactory for a manufacturing town. Many of the deaths, Dr. Brown says, "are due to ignorance in regard to feeding and clothing, also to early marriage, low vitality, want of cleanliness, exposure, especially taking infants out of warm beds at early hours in the morning to place out to nurse, whilst the mothers go to the mills." The zymotic rate is well above the average of previous years, the increase being due principally to measles, which caused 30 deaths, equal to a rate of 1·33 per 1,000. The disease was epidemic during the latter half of the year, and four of the infants' schools were closed for short periods. Diarrhœa contributed 3 deaths, and whooping cough 2 deaths. Forty-three cases of small-pox were notified; it was difficult to trace the source of the disease in many cases. In some it was due to undiagnosed modified small-pox, the type being so mild that the persons did not require medical treatment, or were thought to be suffering from chicken-pox. In others it was probably due to tramping pedlars going from house to house whilst in a contagious state due to ambulatory small-pox. All the patients were speedily removed to hospital, contacts were vaccinated or revaccinated, houses fumigated, &c. Chicken-pox was made notifiable for a period of 5 months, and during that time 27 cases were notified. Scarlet fever was responsible for 115 cases 7 deaths, typhoid fever 16 cases 5 deaths, diphtheria and membranous croup 7 cases 6 deaths, erysipelas 5 cases, and puerperal fever 1 case. Dr. Brown suggests that "signal discs" be affixed to doors of houses where infectious disease exists to protect the public from the danger of entering such houses. Very little difficulty was experienced in getting discs used during the small-pox outbreak.

Hospital Accommodation.—The only provision is for small-pox at the Sourhall hospital, where the whole of the cases, 43 in number, were isolated. The question of providing

accommodation for ordinary infectious diseases is “still in abeyance.”

Disinfection.—In case of small-pox the steam apparatus at the hospital is available. Fumigation of 299 rooms with sulphur or formalin took place, and 390 articles went through the steam disinfecter.

Water Supply.—The Corporation only supply about half the inhabited houses with water, the remainder having to rely on private sources, some of which are liable to contamination.

Sewerage, Scavenging, &c.—Sewage is treated at the joint outfall works at Ewood Bridge; the effluents examined have not given entire satisfaction to the Mersey and Irwell Joint Committee. The sewerage of the Borough is not yet completed, but the work is being steadily pushed forward. Removal of house refuse is performed by the Corporation's servants.

Sanitary Inspection.—Many back-to-back houses still exist, but they are gradually being made into “through” houses, 14 such conversions taking place during the year. Three cellar dwellings were closed. Some of the slaughter-houses are in congested areas, and structurally not suited for their purpose; one, in a dilapidated condition, was closed. Bakehouses and lodging-houses are in fair condition. The inspection of dairies and cowsheds devolves on the police. Workshops (136) were inspected, and 16 notices served resulted in several improvements. The conversion of privy middens to water closets continues, 77 being so altered during 1903. The Inspector (Mr. Barnes) gives details of a large amount of work accomplished, including 810 nuisances remedied, 534 notices served, visits and re-visits to houses 1,095, house-to-house inspections 211, drains tested 39, smoke observations 6, &c.

Barrowford.—(Area in acres, 1,385; Estimated Population, 5,000.)—*Medical Officer of Health*, F. E. DE BEEHO PIM, L.R.C.P.I.; *Salary*, £20.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	25·2 ...	26·0 ...	27·3
Death-rate	13·0 ...	12·6 ...	15·3
Zymotic death-rate.....	0·60 ...	1·60 ...	2·22
Phthisis ,, 	2·00 ...	0·60 ...	0·67
Respiratory ,, 	2·80 ...	3·00 ..	2·95
Rate of deaths under 1 year to 1,000 births... ..	150 ...	123 ...	155

With the exception of the phthisis rate, all the averages for the year under record are below the mean of the preceding decennial period. The zymotic rate is the lowest for 10 years, but the rate of deaths under 1 year to 1,000 births is much higher than last year. Whooping cough gave rise to some trouble, but fortunately only 2 deaths were due to this cause. Diarrhœa caused 1 death only, and measles was non-fatal. Forty-four notifications were received, viz., scarlet fever 25, typhoid fever 4, diphtheria 9, and erysipelas 6.

Hospital Accommodation.—The arrangement with Nelson to take small-pox cases continues, but no provision has yet been made for other infectious diseases.

Disinfection.—No apparatus.

Water Supply obtained from Nelson. Three houses were found to have contaminated private supplies, and town's water was substituted.

Sewerage, Scavenging, &c.—Extension of sewers has taken place, and nearly all the house connections have now been made. Sewage is treated by precipitation and irrigation. The Authority carry out scavenging in a satisfactory manner.

Sanitary Inspection.—Dairies and cowsheds are reported as clean, but short of light, ventilation, and air space. Unfortunately regulations have not yet been adopted. Slaughter-houses are not structurally good, and some of the workshops do not give satisfaction by reason of faulty sanitary conveniences. Six canal boats were inspected. Only 4 notices were required for the abatement of nuisances. Five smoke observations are reported.

Billinge.—(Area in acres, 4,596; Estimated Population, 4,300.)—*Medical Officer of Health*, RICHARD O. MATHER, M.B.; *Salary*, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	34·4 ...	28·2 ...	33·4
Death-rate	17·9 ...	18·3 ...	17·8
Zymotic death-rate.....	0·69 ...	1·17 ...	1·84
Phthisis ,, 	0·93 ...	1·17 ...	1·00
Respiratory ,, 	3·02 ...	3·52 ...	3·48
Rate of deaths under 1 year to 1,000 births.....	128 ...	166 ...	169

The birth-rate, which is the highest since 1897, shows an increase of 6·2 as compared with last year's rate, while the general death-rate is fractionally reduced. The zymotic and infant rates are also favourable, the latter being the lowest recorded for some years. The former rate was entirely due to one death from each of the following diseases, viz.:—measles, diarrhoea, and scarlet fever. Small-pox gave rise to one case, the infection being contracted outside the district. Scarlet fever, with 36 cases, was somewhat prevalent during the first half of the year at Billinge Higher End, but, fortunately, it was of a mild type. Typhoid fever was the cause of 2 cases, erysipelas 2 cases, puerperal fever 1 case, and chicken-pox—notifiable for 6 months—5 cases.

Hospital Accommodation.—The cottage hospital at

Brownlow—4 beds—was kept in readiness for small-pox, and the case above reported was isolated there. A joint scheme for the provision of accommodation for small-pox embraces this district.

Disinfection.—No apparatus available.

Water Supply good, obtained from two local reservoirs at Billinge Hill and Cob Moor.

Sewerage, Scavenging, &c.—The Chief Inspector of the Ribble Joint Committee reports that no effluents have been obtained from the sewage works for many months, owing to absorption by the land used for irrigation and probable discharge into colliery workings. The Council carry out scavenging.

Sanitary Inspection.—Five houses unfit for human habitation were demolished, and 4 others were closed. Bakehouses, slaughter-houses, dairies and cowsheds, and factories and workshops are all described as “good.” The Inspector (Mr. Powell) served 28 notices, and secured the abatement of 40 nuisances; in one instance legal proceedings had to be instituted. One smoke observation was taken.

Birkdale.—(Area in acres, 2,699; Estimated Population, 15,000.)—*Medical Officer of Health*, A. V. WHEELER, L.R.C.P.E.; *Salary*, £60.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	20·2 ...	19·0 ...	22·5
Death-rate	15·5 ...	14·4 ...	14·5
Zymotic death-rate.....	1·40 ...	0·26 ...	0·80
Phthisis ,, 	0·80 ...	1·40 ...	1·06
Respiratory ,, 	2·73 ...	2·13 ...	2·12
Rate of deaths under 1 year to 1,000 births..	157 ...	129 ...	143

The mortality statistics presented by Dr. Wheeler do not

compare favourably with those for last year, or with the mean of the 10 years 1893-1902. The birth-rate is, with the exception of last year, the lowest recorded during the decennial period. Measles gave rise to 4 deaths, diarrhœa 1 death, and whooping cough—very troublesome in November and December—8 deaths. Small-pox was the cause of 8 cases, all of which were promptly removed to hospital. Scarlet fever was prevalent throughout the year, but more especially from September to December; altogether 148 cases were notified and 6 deaths took place. Typhoid fever was responsible for 2 cases, diphtheria 3 cases 2 deaths, and erysipelas 3 cases. The facilities offered by the Council for bacteriological examination are taken but little advantage of. Medical practitioners are invited to notify cases of phthisis.

Hospital Accommodation.—The cottage hospital—10 beds—was used for the isolation of 72 cases of scarlet fever, and the Ducker hospital—12 beds—for the whole of the small-pox cases.

Disinfection.—Frazer's apparatus is at present used, but this is shortly to be replaced by more modern appliances. Houses are fumigated with sulphur.

Water Supply very good, obtained from the Southport and Birkdale Water Board.

Sewerage, Scavenging, &c.—Sewage undergoes treatment by septic tank, precipitation, and filtration. A scheme for constructing new tanks and filters was approved by the Council, but was subsequently discarded. The Authority carry out scavenging in an efficient manner.

Sanitary Inspection.—Slaughter-houses and bakehouses on the whole comply with sanitary requirements, 7 of the latter being considerably improved during the year. Dairies and cowsheds are under the supervision of a veterinary surgeon. Minor alterations and better ventilation at several

workshops were advised and carried out. Twenty-three privy middens were abolished and replaced by water-closets. The Inspector (Mr. Jump) served 31 notices, secured the abatement of 97 nuisances, took 11 smoke observations, &c.

Bispham-with-Norbreck.—(Area in acres, 1,346; Estimated Population, 1,400.)—*Medical Officer of Health*, JAMES JOHNSON, L.F.P.S.G.; *Salary*, £20.

Per 1,000 of Population.	From 15th April, 1903.
Birth-rate	23·0
Death-rate	8·0
Zymotic death-rate	1·00
Phthisis „	nil.
Respiratory „	1·00
Rate of deaths under 1 year to 1,000 births	130

This Urban District, formerly part of the Fylde Rural, was formed by Order of the County Council, which came into operation on April 15th; the statistics, therefore, only relate to 37 weeks. Only one death took place from the principal zymotic diseases, and it was ascribed to diphtheria. The Medical Officer of Health recommends the compulsory notification of measles. Scarlet fever was the cause of 6 cases, and typhoid fever and diphtheria 1 case each.

Hospital Accommodation.—Five cases of scarlet fever were removed to the joint hospital at Moss Side.

Disinfection.—No apparatus. Eight houses fumigated with sulphur.

Water Supply obtained from the Fylde Water Board.

Sewerage, Scavenging, &c.—Sewage is at present collected in tanks and cesspools, and a portion is turned into the Blackpool sewer. A joint sewerage scheme for the districts of Bispham, Thornton, and Carleton will shortly be completed

at a cost of £36,000, the point of discharge being opposite Anchorsholme at dead low water. Scavenging, as performed by the Authority, is said to be satisfactory, but more frequent removal of ashes is required in some parts of the district.

Sanitary Inspection.—Dairies and cowsheds—not subject to regulations—are unsatisfactory as regards light, ventilation, and air space. Thirteen workshops were frequently inspected, as well as the slaughter-house, bakehouses, &c. The Inspector (Mr. Hall) served 103 notices for nuisance abatement.

Blackpool (Borough).—(Area in acres, 3,601; Estimated Population, 53,015.)—*Medical Officer of Health*, FRANCIS J. H. COURTTS, M.D., D.P.H.; *Salary*, £500.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	22·9	...	23·9	...	25·1
Death-rate	14·8	...	14·9	...	14·6
Zymotic death-rate.....	1·45	...	1·14	...	2·08
Phthisis ,,	0·98	...	1·07	...	0·93
Respiratory ,,	1·98	...	2·03	...	2·74
Rate of deaths under 1 year to 1,000 births.....	135	...	123	...	166

The estimated population for 1903 has been obtained by multiplying the number of inhabited houses (as found by the Overseers at a special enumeration in August and September for rate purposes) in each of the six wards of the town by the census factor, viz., 4·766 per house. The number of inhabited houses was 11,181, against 10,946 last year, an increase of 235. To find the estimated population at the middle of the year one-quarter of the increase since the previous September is subtracted. Dr. Courtts gives a detailed analysis of the census returns, showing occupations, sex, age, and other conditions. The birth-rate, 22·9 per 1,000, is, with the exception of 1901, the lowest recorded since 1894, and is 2·2

below the mean of the decennial period 1893-1902. The ward birth-rate varied from 27·64 in Talbot to 11·46 in Bank Hey. The general death-rate, calculated according to the method required by the Local Government Board tables, was 14·8, which is almost identical with last year's rate and the average for the previous 10 years. By the mode of calculation alluded to deaths of visitors must be included in the statistics of the district in which they occur, unless in public institutions, and as 121 deaths of persons staying temporarily in the town took place, 76 of which had been resident less than one month, it will be seen that the death-rate, as recorded, scarcely does justice to the town. The rate for residents alone equalled 12·88 per 1,000 of the estimated population. The death-rate from all causes is highest in Talbot Ward, 15·11, and lowest in Brunswick, 10·72. The other wards come as follows:—Waterloo, 14·61; Bank Hey, 13·54; Claremont, 12·01; and Foxhall, 11·78. The deaths from the seven principal zymotic diseases gave a rate of 1·45, as compared with 1·14 last year, and the 10 years' average of 2·08. Excluding visitors, the rate was 1·34, against 1·23 the previous year. The infantile mortality shows an increase over the average for 1902, although lower than most years; only four times since 1879 has the rate been so favourable. An analysis of the cause of deaths of infants suggests that in some cases the cause is partly neglect and partly wrong feeding. To counteract this evil it is suggested that a thoroughly qualified female inspector be appointed, whose duties would be to visit the homes of the poorer classes, to instruct ignorant parents as to proper methods of infant feeding and the care of children, and to warn careless mothers as to the dangerous results of neglect.

The number of cases of measles notified showed a great reduction on the figures of 1902, only 127 cases being notified, as compared with 863. Five deaths took place, the case mortality being equal to 3·9 per cent. Whooping cough caused 20 deaths, the largest number recorded in any year,

and equal to a rate of 0·38 per 1,000 of the population. The disease was especially fatal to children under 1 year of age, and therefore helped considerably to increase the infant mortality. Diarrhœa, notwithstanding the wet and cold summer, was more prevalent than in the previous year, 25 deaths being recorded against 10 in 1902. The deaths in 1901 amounted to 41, and the three previous years contributed 55, 81, and 101 deaths respectively. Special enquiries were made in case of diarrhœa deaths as to feeding and storage of food, and of the 16 deaths amongst infants under 12 months it was found that only 4 occurred amongst breast-fed children. During the year there were reported 635 cases of infectious disease, compared with 1,227 in 1902. Small-pox gave rise to 22 cases 3 deaths; the first outbreak occurred in January, when 4 persons were attacked through contact with an overlooked case of a man visiting Blackpool at Christmas; the next case was in a man who had tramped from North Wales; the third outbreak was by far the most serious and illustrates the great danger from vagrants. A gipsy family from Liverpool arrived February 3rd, one of whom was afterwards found to have been in contact with a small-pox case in the town mentioned. The parents concealed this case until 5 other children were attacked, and even then they concealed the original case, and this was only discovered on March 2nd during a rigorous inspection of the gipsies vans and tents. In most of the remaining cases the rash developed shortly after the persons arrived in Blackpool, and as several occurred in lodging-houses a great deal of anxiety was occasioned. All the persons attacked were removed to hospital. In May, chicken-pox was included amongst the compulsory notifiable diseases, and up to the end of the year 120 cases were notified. Scarlet fever was responsible for 257 cases in 212 houses, and 9 deaths resulted. Hospital isolation was thoroughly carried out, no less than 94 per cent. of the total cases being removed. The infection in a large number of cases was brought into the borough, and in a few instances "return" cases were recorded.

There was a decrease in the number of typhoid fever cases as compared with previous years, only 42 cases being notified; 8 had a fatal termination. Dr. Coutts is of opinion that the decrease is partly explained by the oyster scare, which acted in two ways, first by making people afraid to eat oysters, and secondly by compelling dealers to see that their shell-fish came from unpolluted layings. Another factor which no doubt helped considerably to reduce the incidence of typhoid fever is due to the attention paid to the mussels on the piers and sewer outfall pipes. These were all cleared and deposited in deep water. An epitome of the cases is given in the report, from which it may be seen that in several cases shell-fish was very probably the vehicle of infection. In 41 cases out of the 42 notified, specimens of blood were sent for bacteriological examination, and in 40 the reaction was ultimately positive. Sixty-six per cent. of the typhoid fever cases received hospital isolation. Diphtheria contributed 40 cases 7 deaths; 53 specimens were examined bacteriologically — in 20 the specific bacillus was found, in 30 it was absent, 2 cases were doubtful, and in 1 no growth. The facilities granted for the free supply of antitoxin were taken advantage of to a considerable extent. The remaining notifications were erysipelas 19 cases, puerperal fever 3 cases, and r  theln 5 cases.

Hospital Accommodation.—The hospital was constructed for, nominally, 20 beds and 4 cots, but Dr. Coutts again reports that owing to the urgent necessity for isolation it has been frequently found imperative to introduce more beds, and the wards have, to that extent, been overcrowded. The question of the provision of increased accommodation has advanced; plans were submitted to the Local Government Board, together with an application for a loan of £23,500 for extensions. The total cases treated numbered 299, viz., small-pox 22 (at the Elswick joint hospital), scarlet fever 242, typhoid fever 28, measles 6, and chicken-pox 1.

Disinfection.—The Washington Lyon's steam apparatus was used for the disinfection of 57,197 articles of bedding, clothing, &c. Five hundred and sixty-one houses were fumigated after cases of infectious disease, either with burning sulphur or by formaldehyde vapour; the walls and furniture are being washed with a solution of perchloride of mercury. Disinfection of houses is also carried out after the occurrence of measles and phthisis.

Water Supply is obtained from the Fylde Water Board's reservoirs at Bleasdale and Grisedale Fells. The water is soft and of a peaty nature, and occasionally contains a good deal of sediment, detracting from its appearance.

Sewerage, Scavenging, &c.—The borough is drained by five sewerage systems, four of which eventually discharge into the sea by an iron outfall pipe of 3 feet diameter, which has been carried 800 yards out to sea. The sewage is discharged only whilst the tide is receding, $1\frac{1}{2}$ hours after high water, until 2 hours before low water, so as to insure all sewage being completely carried away. The fifth system drains the Clarendon Park district, and the sewage flows by gravitation to an outfall at the Gynn, which extends seawards to a distance of 440 yards. The ventilating grids in the streets are, at times, very objectionable, and it is recommended that these be abolished, and high shafts substituted. The number of house drains tested during the year was 2,930. The water-carriage system of dealing with excreta is practically the one in vogue, and a destructor is provided to dispose of refuse. A few privies and cesspools remain, but these are gradually being abolished. The refuse is collected from the ash receptacles weekly, but during the season, in some portions of the town a daily collection is made.

Sanitary Inspection.—The magnitude of the work accomplished by the staff in the Health Department is shown by

the undermentioned items, which are extracted from the report :—

Complaints received	369						
Total visits and inspection	14899						
Number of inspections of work in progress	4938						
Houses where sanitary defects were found	1361						
Visits and re-inspections of houses, &c.	5039						
Notices served for the abatement of nuisances	<table> <tr> <td>Council</td><td>355</td></tr> <tr> <td>Preliminary...</td><td>1203</td></tr> <tr> <td>Verbal.....</td><td>196</td></tr> </table>	Council	355	Preliminary...	1203	Verbal.....	196
Council	355						
Preliminary...	1203						
Verbal.....	196						
Total number of house drains tested	2930						
Drains of new houses examined	312						
Number of sanitary defects remedied.....	2475						
Drains re-laid, disconnected, and ventilated	510						
Drains re-laid and cleaned out.....	316						
Drains tested during re-laying.....	1255						
New w.c.'s erected in lieu of privies	46						
W.C.'s repaired or unblocked	324						
W.C. soil pipes ventilated	83						
Floors re-laid with flags or with cement concrete...	196						
Back yards flagged, repaired, or concreted	446						
Accumulations of refuse removed	44						
Animals removed from improper situations	45						
Letters written	2499						

In addition, 1,740 visits were made in connection with infectious diseases, 549 isolation notices were served upon householders, and 388 upon school managers. Common lodging-houses received 922 inspections, and 3,922 visits were made to other lodging-houses. Dairy and cowshed inspections numbered 1,002, and factory inspections 564. The use of 12 underground bakehouses has been discontinued, and in several others improvements have taken place. The public abattoir and the 3 private slaughter-houses are under strict supervision. At 11 dairy farms alterations have been made, but several do not yet comply with the regulations. Vigilant

supervision of the food supply is carried out, and a considerable quantity of unsound food was destroyed. Under the Sale of Food and Drugs Acts, 147 samples were analysed. Seventeen smoke observations were taken. Valuable meteorological statistics are appended to the report.

Blackrod.—(Area in acres, 2,392; Estimated Population, 3,900.)—*Medical Officer of Health*, J. W. UNSWORTH, M.B.; *Salary*, £20.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	31·0 ...	35·6 ...	31·1
Death-rate	18·4 ...	11·5 ...	15·3
Zymotic death-rate.....	3·84 ...	0·76 ...	2·39
Phthisis ,,	0·76 ...	0·25 ...	0·45
Respiratory ,,	1·79 ...	3·33 ...	2·81
Rate of deaths under 1 year to 1,000 births.....	123 ...	107 ...	132

The statistics for the year under review are marked by a decrease in the birth-rate as compared with last year of 4·6 per 1,000 of the population, and an increase in the death-rate of 6·9. The zymotic rate is high, and much above the average of preceding years. Whooping cough, prevalent from May to December, caused 5 deaths, measles, scarlet fever, and typhoid fever 3 deaths each, and diarrhoea 1 death. In November 2 cases of small-pox arose, the infection in both cases being traced to Chorley, where the disease was prevalent at the time. Removal to hospital took place, and the infected clothing was destroyed. Scarlet fever, with 51 cases, was present throughout the year, the greatest prevalence being from February to April. Typhoid fever contributed 6 cases, diphtheria and membranous croup 2 cases, erysipelas 3 cases, puerperal fever 5 cases, continued fever 1 case, and chicken-pox—temporarily notifiable—10 cases.

Hospital Accommodation.—The new joint hospital is

nearing completion, and this district is included in the scheme for providing a joint small-pox hospital for the districts around Wigan. The 2 small-pox cases were removed to Horwich hospital.

Disinfection.—No apparatus.

Water Supply excellent and abundant, obtained from Council's own reservoir.

Sewerage, Scavenging, &c.—The irrigation area at the sewage works is very large in proportion to the population it has to deal with, and practically absorbs the whole of the sewage. Scavenging is undertaken by the Authority.

Sanitary Inspection.—Several marked improvements in sanitary matters have taken place, more especially as regards privies and ashpits. Bakehouses, slaughter-houses, workshops, and dairies and cowsheds appear to be well conducted, but unfortunately the latter are not subject to regulations. The Inspector served 29 notices, and secured the abatement of 52 nuisances, one after the institution of legal proceedings.

Brierfield.—(Area in acres, 807; Estimated Population, 7,500.)—*Medical Officer of Health*, THOMAS DEAN, M.D.; *Salary*. £20 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 5 years. 1898-1902.
Birth-rate... ..	26·9 ...	24·4 ...	26·6
Death-rate	14·1 ...	13·0 ...	13·8
Zymotic death-rate.....	1·20 ...	2·40 ...	2·11
Phthisis ,,	0·13 ...	0·93 ...	1·02
Respiratory ,,	4·40 ...	2·80 ...	2·63
Rate of deaths under 1 year to 1,000 births	158 ...	136 ...	164

As compared with last year, the birth and death rates show increases of 2·5 and 1·1 per 1,000 of the population

respectively. The zymotic is reduced exactly one-half, but there is an increase in the number of infant deaths. Measles and whooping cough did not cause any fatality, and only 2 deaths were ascribed to diarrhoea. Small-pox gave rise to 6 cases, all in one house. The disease was introduced by a man from the adjoining county borough who had his meals with the family attacked; there were cases of small-pox in his home, but this he kept secret. As the man worked in a large spinning mill much anxiety was felt by the sanitary officials as to the likelihood of the spread of the disease. Fortunately their fears were not realised. Scarlet fever was the cause of 27 attacks and 3 deaths, almost the whole of the cases occurring during the first half of the year; in 1902, 60 cases were notified, and 88 in 1901. Typhoid fever contributed 6 cases 1 death, diphtheria 11 cases 3 deaths, erysipelas 7 cases, and puerperal fever 1 case.

Hospital Accommodation.—The 6 cases of small-pox were removed to the joint small-pox hospital, and 15 cases of scarlet fever were treated at the joint sanatorium.

Disinfection.—Steam apparatus at Burnley is available.

Water Supply, good and ample, obtained from the Nelson Corporation.

Sewerage, Scavenging, &c.—Sewage is treated septicallly in tanks, followed by double contact in bacterial filters. A storm-water filter has been completed and put into operation. This was the first storm-water filter constructed in the watershed. The Authority carry out scavenging in an efficient manner, the bulk of the refuse being taken to the Nelson destructor.

Sanitary Inspection. — Bakehouses, slaughter-houses, factories and workshops, and dairies and cowsheds are, on the whole, in good condition. It is to be regretted that the Council have not yet adopted dairy, &c., regulations. Twelve

canal boats examined complied with the requirements of the Act. The Inspector (Mr. Halstead) served 72 notices, and as a result 54 nuisances were abated.

Carnforth.—(Area in acres, 1,505; Estimated Population, 3,050.)—*Medical Officer of Health*, EDWARD S. JACKSON, M.D.; *Salary*, £20.

Per 1,000 of Population.	1903.		1902.		Mean of 8 years. 1895-1902.
Birth-rate.....	33·1	...	25·5	...	29·1
Death-rate	16·7	...	12·1	...	11·9
Zymotic death-rate.....	0·32	...	0·32	...	0·64
Phthisis ,,	nil	...	0·65	..	0·83
Respiratory ,,	1·31	...	1·96	...	2·03
Rate of deaths under 1 year to 1,000 births.....	148	...	128	...	100

The birth-rate is higher than any for 8 years past, excepting 1899, when it was exactly the same, and the death-rate is 4·8 per 1,000 above the mean of the period mentioned. Only 1 zymotic death—ascribed to scarlet fever—took place. Three notifications were received—scarlet fever 2 and erysipelas 1.

Hospital Accommodation.—An iron structure has been erected at Cragg Bank, with two wards of 6 beds each, a separate room for nurses, a caretaker's detached residence, and the necessary outbuildings.

Disinfection.—No proper appliances.

Water Supply obtained from Council's own reservoir at Withets.

Sewerage, Scavenging, &c.—The sewage is disposed of by running into settling tanks before passing into the tidal portion of the River Keer. Periodical flushing of sewers is carried out. Scavenging, in the hands of contractors, gives satisfaction.

Sanitary Inspection.—There are two bakehouses and two slaughter-houses in the district, which are well kept. Dairies and cowsheds have not been specially inspected, and they are not subject to regulations. The workshops comply with sanitary requirements. Forty-eight notices were served for nuisance abatement.

Chadderton.—(Area in acres, 3,082; Estimated Population, 25,500.)—*Medical Officer of Health*, HAROLD ASHTON, L.R.C.P.E.; *Salary*, £65.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	28·0	...	30·0	...	27·7
Death-rate	17·3	...	17·8	...	18·6
Zymotic death-rate.....	2·00	...	1·77	...	2·24
Phthisis „	1·17	...	1·46	...	1·39
Respiratory „	3·29	...	3·43	...	3·75
Rate of deaths under 1 year to 1,000 births..	181	...	154	...	174

The birth-rate, 2·0 per 1,000 below last year's average, is fractionally above the mean of the 10 years 1893-1902. The general death-rate is the lowest recorded during the decennial period, excepting 1898, when it was 17·2. The zymotic and infant rates are less favourable than last year, the latter rate being far too high. Measles made its appearance in epidemic form in November, at Hollinwood, and necessitated school closure. The disease was of a severe type and 18 deaths resulted. Whooping cough caused more deaths than usual (20), but only 3 fatalities were attributed to diarrhœa. Small-pox gave rise to 46 attacks with three deaths. Two cases occurred in children who were treated at home for two or three weeks without medical advice. The Council decided not to prosecute the parents of either child for failure to notify, as in the first instance the father, mother, and another child caught the disease; and in the second instance the

ather, mother, five sisters and brothers (one of whom died), and another relation in Oldham, as well as a friend, all took small-pox. Including the above, 23 out of the 46 cases reported arose from three children who had been ignorantly treated at home for some days. Three other cases were caused by visiting houses in Royton and Oldham, where patients suffering from small-pox were lying at the time; two were due to an undiscovered mild case in a person working in Manchester; whilst the source of infection in a number of instances was not definitely traced. The precautionary measures taken included removal to hospital immediately the cases were reported, disinfection, vaccination of contacts, &c. Last year, in view of a probable invasion of small-pox, the Council placed chicken-pox on the list of notifiable diseases for a period of 12 months, and in February of the year under report it was resolved to continue notification for a further period of like duration—63 cases were reported. Scarlet fever (60 cases) still clings to the district, although there have been fewer cases every year since 1900. Dr. Ashton states that “it would be more satisfactory if we had a station where all clothing and bedding from fever cases could be disinfected by steam as is done in cases of small-pox.” Diphtheria, associated with membranous croup gave rise to only 9 notified cases, but no less than 6, or 66 per cent., proved fatal. Typhoid fever was responsible for 7 cases, erysipelas 8, and puerperal fever 2.

Hospital Accommodation is provided at the joint hospital at Cinder Hill for small-pox, and the whole of the cases notified (46) were removed. The Westhulme hospital, Oldham, is occasionally used for other diseases, only 4 scarlet fever and 3 typhoid fever patients being removed during the year.

Disinfection.—Steam appliances are provided at the small-pox hospital. No provision is made for the ordinary wants of the district.

Water Supply, obtained from Oldham, is reported as good.

Sewerage, Scavenging, &c.—Sewage is treated on the International system, the works consisting of 6 tanks, 12 filters, and 9 acres of land. The bulk of the sewage which formerly went into the mill lodges, and gave rise to a serious nuisance, has now been diverted into the sewers. A portion of the district is still unconnected, and this causes pollution of the Wince Brook. Scavenging is performed by the Authority.

Sanitary Inspection.—The seven houses condemned last year have now been made habitable. Bakehouses and slaughter-houses are reported as “good,” and dairies and cowsheds as “fair.” Factory and workshop inspection did not reveal any serious contravention of the Act. Notices served amounted to 51, and 40 nuisances were abated. Smoke observations again nil.

Childwall.—(Area in acres, 830; Estimated Population, 220.)—*Medical Officer of Health*, HENRY HARVEY, M.B.; *Salary*, £20.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	4·5	...	13·6	...	15·2
Death-rate	4·5	...	4·5	...	4·30
Zymotic death-rate.....	nil.	...	nil.	...	0·48
Phthisis „	nil.	...	nil.	...	nil.
Respiratory „	nil.	...	nil.	...	0·47
Rate of deaths under 1 year to 1,000 births.....	nil.	...	nil.	...	160

There is very little to report regarding this district. Only 1 birth, 1 death, and 1 case of infectious disease (diphtheria) occurred.

Hospital Accommodation.—An arrangement with Liverpool exists regarding the removal to the City hospitals of cases of infectious disease.

Disinfection.—No apparatus. In case of disease, houses are fumigated with sulphur, and the clothing disinfected at Liverpool.

Water Supply excellent (Liverpool).

Sewerage, Scavenging, &c.—Sewage flows into cesspools situated in the fields; the overflow (if any) finds its way into a streamlet. Scavenging is undertaken partly by the Authority and partly by farmers.

Sanitary Inspection.—The sanitary work does not call for special comment. It was not necessary to issue any notice for nuisance abatement. The only dairy in the district is kept clean, but is deficient in air space.

Chorley (Borough).—(Area in acres, 3,614; Estimated Population, 28,000.)—*Medical Officer of Health*, JAS. A. HARRIS, M.D. (Lond.); *Salary*, £60 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	29·4 ...	28·7 ...	31·0
Death-rate	16·7 ...	17·0 ...	20·7
Zymotic death-rate.....	1·39 ...	1·41 ...	2·19
Phthisis ,, 	1·25 ...	0·72 ...	1·13
Respiratory ,, 	2·82 ...	4·25 ...	3·87
Rate of deaths under 1 year to 1,000 births.....	146 ...	155 ...	193

The birth-rate, although 1·6 per 1,000 of the population below the mean of the decennial period 1893-1902, is higher than for the last three years. The death-rate shows a reduction of 4·0 as compared with the 10 years' average, and is the lowest recorded during that period. The zymotic and infant rates also show satisfactory reductions. Measles became prevalent towards the close of the year, and necessitated school closure. Nine deaths were due to this disease, 14 deaths to whooping cough, which was prevalent during the

second half of the year, and 6 deaths were ascribed to diarrhœa. Small-pox caused more attacks (*viz.*, 42) than during any of the preceding 24 years. All the cases were without delay removed to hospital. Re-vaccination was offered to the inmates of the infected houses, bedding and clothing fumigated, and handbills, describing small-pox and giving directions in case of a suspicious illness, were distributed. The disease was on several occasions introduced into the town chiefly by vagrants and tramps; but in the great majority of instances the attacks resulted from an undiscovered case. In several of these cases the Medical Officer of Health was able to trace direct contact with the infected persons who had been going to work during the infectious period. Three of the persons attacked presented no marks of vaccination, all of whom suffered from the severe (confluent) type of the disease. With few exceptions the remainder of the cases, who had been vaccinated more or less efficiently in infancy, suffered from the milder (discrete) variety. In one case legal proceedings were instituted for failing to report a case at a common lodging-house, and a fine of £5, exclusive of costs, was inflicted. Scarlet fever has been very prevalent during the year, no less than 214 cases, with 6 deaths, being reported, as compared with 156 cases and 8 deaths in the preceding year. Eighty-nine per cent. of the cases notified were removed to hospitals. Dr. Harris is of opinion that many slight attacks amongst children were not recognised, and to this is attributed the spread of the disease. He had also reason to believe that in some cases the whole of the infected articles—clothing and bedding—were not given up for disinfection. Typhoid fever caused only 13 cases (3 fatal), the lowest number recorded. There has been a steady diminution in the number of cases of this disease since the conversion of pail closets into water closets has been initiated. Diphtheria contributed 1 case 1 death, erysipelas 12 cases, and puerperal fever 2 cases. The Town Council have converted an old cottage into a temporary shelter for

members of any family in which infectious disease occurs when they are compelled to leave their dwellings to enable such dwellings to be disinfected, and they have also provided there a bath for the use of persons whose clothes are being disinfected.

Hospital Accommodation.—Two hundred and forty cases were removed to hospitals during the year, namely, 42 cases of small-pox to the Blackburn Corporation hospital at Finnington, and 192 cases of scarlet fever and 4 cases of typhoid fever to the joint hospital at Heath Charnock. The latter hospital has been added to during the year by the building of a discharge block, through which all the scarlet fever patients pass, and in which they are thoroughly disinfected before they leave the hospital. An arrangement has been made with the Corporation of Blackburn to rent 10 beds in the Finnington hospital for the reception of cases of small-pox from the constituent Authorities of the Chorley, &c., Joint Hospital Board.

Disinfection.—The steam apparatus was used for the disinfection of 8,572 articles of bedding, clothing, &c., and 253 houses were fumigated.

Water Supply very good; obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is treated at four out-fall works. At the Botany works an additional acre of land has been brought into use, and the Local Government Board have been applied to and have sanctioned the loan of £4,400 for the purpose of sewerage and providing sewage works for this district. Scavenging is undertaken by the Corporation, and a refuse destructor is in course of erection.

Sanitary Inspection.—Bakehouses, slaughter-houses, cow-sheds, dairies and milkshops are all described as being in satisfactory condition. Factories and workshops also, on the

whole, comply with sanitary requirements. Six carcasses of animals were condemned as unfit for human food. The alterations, made at considerable expense, at the oilcloth works have, to a certain extent, mitigated the nuisance caused by offensive odours, but the nuisance is not yet abated, although occurring less frequently than formerly. The Inspector (Mr. Cunliffe) served 944 notices for the abatement of nuisances, and practically all were attended to. In two instances legal proceedings were necessary before the nuisances were abated. Many smoke observations were taken, 15 resulting in legal action.

Church.—(Area in acres, 529 ; Estimated Population, 6,600).

—*Medical Officer of Health*, A. B. CRAIG, M.B.; *Salary*, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	25·9 ...	25·8 ...	27·2
Death-rate	16·6 ...	14·7 ...	17·0
Zymotic death-rate.....	1·51 ...	0·46 ...	2·40
Phthisis „	1·06 ...	1·07 ...	1·08
Respiratory „	3·18 ...	3·07 ...	3·68
Rate of deaths under 1 year to 1,000 births.....	134 ...	125 ...	162

The birth-rate varies but fractionally from that of last year, but the death-rate shows an increase equal to 1·9 per 1,000 of the population. The zymotic rate exceeds the rate of 1902 by 1·05, and the infantile mortality is less favourable. All the mortality averages, however, are below those of the 10 years 1893-1902. Measles—the cause of 2 deaths—prevailed somewhat in December, when it was found necessary to adopt school closure. Diarrhoea was responsible for 3 deaths. Small-pox gave rise to 4 cases 1 death; 3 of the attacks took place in a common lodging-house. Disinfection and thorough isolation of contacts were carried out. Scarlet fever contributed 26 cases 2 deaths, typhoid fever 6 cases 1 death, diphtheria 3 cases 1 death, and erysipelas 2 cases.

Hospital Accommodation.—Nil. By special arrangement the 4 small-pox cases were treated at the Blackburn hospital.

Disinfection.—A “disinfecting chamber” is provided.

Water Supply obtained from the Accrington, &c., Joint Board is quite satisfactory.

Sewerage, Scavenging, &c.—Sewage is treated at the Accrington and Church joint outfall works at Coppy Clough by septic tanks, sprinkler filters, and small sedimentation tanks. Several improvements at the works have recently been made. The Authority undertake scavenging.

Sanitary Inspection.—One house, unfit for human habitation, was closed. Bakehouses, slaughter-houses, dairies, cow-sheds, and milkshops are all described as well kept. Factories and workshops are also satisfactory except in 2 instances, where the sanitary conveniences were found to be deficient. Twenty privy middens were converted to the water-carriage system and others are under notice for similar conversion. Canal boats inspected, 60 in number, complied with the requirements of the Act. Notices served numbered 107, nuisances remedied 104, and smoke observations 40.

Clayton-le-Moors.—(Area in acres, 1,059; Estimated Population, 8,400.)—*Medical Officer of Health*, L. TATTERSALL, M.R.C.S.; *Salary*, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	28·3 ...	31·3 ...	28·7
Death-rate	16·4 ...	16·7 ...	16·0
Zymotic death-rate.....	1·19 ...	1·80 ...	1·96
Phthisis „	0·47 ...	0·48 ...	0·85
Respiratory „	2·61 ...	3·61 ...	2·89
Rate of deaths under 1 year to 1,000 births.....	151 ...	157 ...	161

The mortality statistics for the year under review are

slightly more favourable than last year, and they vary but fractionally from the averages of the 10 years 1893-1902. The birth-rate shows a reduction of 3 per 1,000 as compared with 1902. Dr. Tattersall, in reporting on the infantile mortality, says "bad nursing, carelessness, and wilful negligence as to proper feeding and clothing is responsible for this high rate. The homes of the children in a great number of cases are anything but clean, and the foul smells arising from dirt and insufficient ventilation contribute to the spread of illness." Measles was not generally prevalent, and caused only 1 death. Diarrhœa contributed 2 deaths. There was one case of small-pox reported during the early part of the year, the infection being very probably obtained through contact with a suspicious small-pox case at Accrington. Scarlet fever gave rise to 88 cases 4 deaths, against 59 cases 1 death last year, and 46 cases no death in 1901. Typhoid fever was the cause of 7 cases 1 death, diphtheria and membranous croup 10 cases 2 deaths, erysipelas 14 cases, and puerperal fever 1 case.

Hospital Accommodation nil. By arrangement the case of small-pox was admitted into the Accrington Corporation hospital.

Disinfection.—No apparatus.

Water Supply is much better than formerly, its improved quality being due to filtration.

Sewerage, Scavenging, &c.—The Local Government Board have sanctioned a loan of £6,500 for the laying out of land and providing storm-water filters at the Clayton-le-Moors and Great Harwood joint outfall works. The Ribble Joint Committee urge that the new works be proceeded with as rapidly as possible. Scavenging is, as far as practicable, carried out in an efficient manner. The method of refuse disposal—into disused quarries—is not altogether satisfactory.

Sanitary Inspection.—A few houses, upon inspection, were found to be unfit for human habitation, and 4 were

closed. Alterations are in progress with regard to the sanitary condition of the dairy farms, and regulations have been framed requiring more cubic space and better ventilation of cowsheds. Bakehouses and slaughter-houses gave rise to no complaints. Workshops were found to be within the requirements of the Act, both as regards cubic space and conveniences, but the closet accommodation at some of the factories is not satisfactory. Details of the nuisances dealt with are not given.

Clitheroe (Borough).—(Area in acres, 2,385; Estimated Population, 11,500.)—*Medical Officer of Health*, WM. E. BARKER, M.B.; *Salary*, £40.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years. 1893-1902.
Birth-rate.....	23·8	...	22·2	...	25·2
Death-rate	15·7	...	14·4	...	16·6
Zymotic death-rate.....	2·00	...	0·52	...	1·84
Phthisis „	0·86	...	0·87	...	1·03
Respiratory „	2·43	...	2·27	...	2·75
Rate of deaths under 1 year to 1,000 births.....	131	...	125	...	145

The birth-rate showed an increase of 1·6 per 1,000 of the population as compared with last year, but, although the highest since 1898, it was 1·4 below the mean of the preceding decennial period. The mortality statistics are not quite so low as in 1902, but, on the whole, compare favourably with previous years. No death was attributed to measles, and the town kept comparatively free from the disease. An epidemic of whooping-cough occurred towards the close of the year, and entailed the closing of one school; fortunately only 2 deaths took place. Dr. Barker recommends that both the above-mentioned diseases be made notifiable. Diarrhœa contributed 3 fatalities. A case of small-pox—a tramp—occurred in the

early part of the year at the workhouse, and as the joint small-pox hospital was not ready for the reception of patients, he had to be isolated on the workhouse premises. The most noticeable feature during the year regarding infectious diseases was the serious outbreak of diphtheria and membranous croup; altogether 60 cases were notified and 16 deaths resulted. The disease spread from one district to another through the medium of the schools, and then locally from house to house. Very probably the chief cause was the common occurrence of school children drinking direct from an ordinary tap which, Dr. Barker reports, "is an ideal method of propagating any throat affection. Had the town possessed an infectious disease hospital, in which the earliest cases might have been thoroughly isolated, this wide-spread epidemic, with its resultant loss of 16 lives, might have been averted." Scarlet fever was the cause of 16 cases 2 deaths, typhoid fever 5 cases, and erysipelas and puerperal fever 1 case each. The Council are advised to make arrangements for bacteriological examinations in doubtful cases of typhoid fever, diphtheria, and tuberculosis.

Hospital Accommodation.—There is no provision for ordinary infectious diseases, but a small hospital—8 beds—for the treatment of small-pox cases has recently been erected at Salt Hill jointly by the Corporation and the Clitheroe and Bowland (Yorks.) Rural District Councils.

Disinfection.—No apparatus. Sulphur fumigation relied upon.

Water Supply, obtained from a local source, is "excellent in quality and perfectly adequate in amount."

Sewerage, Scavenging, &c.—Two new tanks have been completed at the sewage works, and progress has been made in connecting house drains to the main sewer. Several ventilating shafts were erected and flushing of the sewers takes place periodically. Scavenging is satisfactorily performed by the Authority.

Sanitary Inspection.—There is a considerable amount of old property in some parts of the town, and there are still 284 back-to-back houses, only 2 having been made into “through” houses during the year under report. Bake-houses (22) are, on the whole, satisfactory. The Council have had under consideration the question of providing new public slaughter-houses, the old premises, 6 in number, being deficient in accommodation and generally unsatisfactory. Dairies and cowsheds (90) have been specially visited; many were found to be deficient in air space, and also in regard to ventilation and lighting. Factories (18) and workshops (74) are fairly well kept, but the means of ventilation provided are not always sufficiently made use of, and “there is, generally speaking, a much greater dread of cold air than of impure air on the part of the workers employed.” Water-carriage is gradually replacing the tub system, and there are but few of the old privy middens now in existence. The Inspector (Mr. Davies) reports on 266 nuisances which were abated. Several smoke observations were taken.

Colne (Borough).—(Area in acres, 5,063; Census Population, 23,000).—*Medical Officer of Health*, W. LYONS LOVETT, L.R.C.P.E.; *Salary*, £100.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	25·8	26·7	28·8
Death-rate	13·5	15·9	15·7
Zymotic death-rate... . .	0·86	2·73	2·33
Phthisis ,, 	1·43	1·21	1·11
Respiratory ,, 	2·91	3·34	3·72
Rate of deaths under 1 year to 1,000 births	131	188	168

The mortality statistics under review compare favourably with the averages of last year and with the mean of the decennial period 1893-1902. The zymotic and infant rates are the lowest recorded, and the general death-rate is less

than any previous year excepting 1898. The birth-rate is also the lowest on record. Measles and whooping cough each caused 1 death, and diarrhœa 7 deaths, against 38, 9, and 10 deaths respectively in 1902. During the first 3 months of the year small-pox gave rise to 16 cases—2 in common lodging-houses—but no fatality resulted. Prompt removal to hospital took place. Legal proceedings were instituted for alleged concealment of small-pox, but the magistrates did not think there was sufficient evidence of knowledge on the part of the defendant on which to convict. Scarlet fever occasioned more trouble than usual, 150 cases being reported with 8 deaths, against 127 cases 4 deaths last year, and 39 cases in 1901. Typhoid fever contributed 5 cases 1 death, diphtheria and membranous croup 8 cases 2 deaths, erysipelas 33 cases, and puerperal fever 1 case. Bacteriological examinations were made in only 2 cases (typhoid fever).

Hospital Accommodation.—A farm house was converted into a small-pox hospital, and 16 cases were treated there. Accommodation for ordinary infectious diseases is not available. The negotiations with Nelson (B.) as to the advisability of providing a joint hospital have fallen through.

Disinfection.—No apparatus. Houses are fumigated either with sulphur or formalin.

Water Supply is plentiful and of good quality, but complaints are made regarding the colour, and the deposit of flocculent matter on standing; the latter points to lack of filtration and the former is due to the peaty character of the gathering ground.

Sewerage, Scavenging, &c.—During the year considerable progress has been made in the carrying out of the sewage works extension scheme at a cost of about £13,000. The septic tanks are practically completed; the bacteria beds are approaching completion; and the sludge lagoons and detritus chambers are now being constructed. The Lanesshaw Bridge

sewerage scheme has been carried out at a cost of about £2,000; all the houses in the village are now connected to the main sewer. The Corporation carry out scavenging in an efficient manner, the refuse being taken to the destructor.

Sanitary Inspection.—One house, unfit for human habitation, was closed. Bakehouses and slaughter houses—both public and private—are on the whole fairly well kept, and the same may be said of the common lodging-houses, dairies, cowsheds, and milkshops. Factories and workshops came under observation, and only slight defects were discovered. Eight privy middens were abolished and the water-carriage system substituted. The Inspector (Mr. Sugden) served 147 preliminary and 44 statutory notices, and as a result 139 nuisances were abated. Twenty smoke observations were taken.

Crompton.—(Area in acres, 2,865; Estimated Population, 13,500.)—*Medical Officer of Health*, WILLIAM BROOKE, M.A., M.D.; *Salary*, £60.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	22·6 ...	27·7 ...	26·5
Death-rate	16·7 ...	18·7 ...	18·5
Zymotic death-rate... ..	1·92 ...	0·81 ...	1·61
Phthisis ,,	0·59 ...	0·96 ...	1·14
Respiratory ,,	3·40 ...	3·92 ...	3·78
Rate of deaths under 1 year to 1,000 births.....	173 ...	192 ...	184

The statistics, as compared with 1902, are marked by decreases in the birth and death rates of 5·1 and 2·0 per 1,000 of the population respectively. The zymotic rate, however, is increased, and the rate of deaths under 1 year to 1,000 births remains high. Measles—the cause of 7 deaths—was prevalent during the last quarter of the year; one school being closed, and at other schools children from infected houses were excluded. Whooping cough contributed 11 deaths. At

the beginning of the year small-pox was prevalent in the district. The epidemic seemed to be gradually dying out until the month of April, when it again assumed serious dimensions. Early in June the district became free from the disease, but in September it again made its appearance, very probably introduced from a neighbouring district. Altogether 74 cases were reported, and 5 deaths resulted. All the patients were removed to hospital, the inmates of infected houses quarantined, placards containing advice were posted, and re-vaccination offered to all contacts. Three persons were prosecuted for concealing cases of small-pox, and in two instances penalties were imposed. The other infectious diseases did not give rise to much trouble, scarlet fever contributing 14 cases 1 death, typhoid fever 4 cases 2 deaths, erysipelas 25 cases, and puerperal fever 6 cases.

Hospital Accommodation.—The joint small-pox hospital at Cinder Hill was used for the isolation of the whole of the 74 cases of small-pox reported, and one case of typhoid fever was removed to Westhulme hospital, Oldham.

Disinfection.—Meldrum's apparatus available. In small-pox cases infected bedding was disinfected by steam at the hospital. A "Thresh" emergency disinfecter was purchased. Rooms fumigated numbered 317.

Water Supply good; obtained from Oldham.

Sewerage, Scavenging, &c.—Sewage is dealt with at two outfall works—Low Crompton and Newhey. On three occasions the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent from the latter works. Plans and estimates have now been prepared for extensions at the sewage works. Scavenging is performed by the Authority, but the method of refuse disposal is not altogether satisfactory. Many of the streets require attention.

Sanitary Inspection.—Four houses unfit for human habitation were condemned, and 3 others closed. Bakehouses,

slaughter-houses, and lodging-houses are said to be in good condition. Several necessary improvements were effected at the dairies and cowsheds, but it is to be regretted that the Council have not yet adopted regulations with respect to them. Factories and workshops were examined, and existing irregularities rectified. A few privy middens and cesspools were abolished. To secure the abatement of 168 nuisances, 69 preliminary and 60 statutory notices were required.

Croston.—(Area in acres, 2,347; Estimated Population, 2,125.)—*Medical Officer of Health*, ALFRED DUCKWORTH, L.R.C.P.E.; *Salary*, £20.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	18·3	...	21·6	...	28·0
Death-rate	15·5	...	13·6	...	15·0
Zymotic death-rate...	1·41	...	1·88	...	1·45
Phthisis ,, ...	0·94	...	0·47	...	0·55
Respiratory ,, ...	3·76	...	1·41	...	2·27
Rate of deaths under 1 year to 1,000 births.....	51	...	21	...	133

The birth-rate, which is the lowest recorded, is 3·3 per 1,000 of the population below last year's rate, and 9·7 below the mean of the decennial period 1893-1902. The death-rate is fractionally above the average of previous years, and 1·9 higher than in 1902. Measles was very prevalent in the autumn, but only caused 2 deaths. The schools were closed for a short period. Nine notifications were received, viz., typhoid fever 6 (1 fatal), and small-pox, erysipelas, and puerperal fever 1 case each.

Hospital Accommodation.—The West Lancashire Rural District Council's hospital at Aughton is available for cases from this district, but for the second year not a single case was removed.

Disinfection.—No proper appliances.

Water Supply “good,” obtained from wells and pumps.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. Scavenging, carried out by contract, is described as satisfactory.

Sanitary Inspection.—Dairies and cowsheds are not subject to regulations, and are not even inspected. A few minor alterations to factories and workshops were effected. The Inspector served 11 notices for nuisance abatement.

Dalton-in-Furness.—(Area in acres, 7,990 ; Census Population, 13,020).—*Medical Officer of Health*, G. H. PATTERSON, M.R.C.S., D.P.H. ; *Salary*, £100.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.. .. .	28·9	...	31·3	...	30·2
Death-rate	14·8	...	17·6	...	16·0
Zymotic death-rate.....	1·38	...	0·53	...	1·88
Phthisis ,, 	1·53	...	1·45	...	1·11
Respiratory ,, 	2·38	...	3·22	...	2·91
Rate of deaths under 1 year to 1,000 births.....	135	..	156	...	149

The statistics presented by Dr. Patterson are marked by decreases in the birth and death rates of 2·4 and 2·8 per 1,000 of the population respectively, as compared with last year. The zymotic rate exceeds last year's rate by 0·85, but it is 0·50 below the mean of the preceding 10 years. The infantile mortality is more favourable than for some years past. The birth-rate in the three sub-divisions was as follows:—Askam and Ireleth 30·5, Lindal and Marton 18·9, and Dalton and Newton 29·4; and the death-rates were 11·8, 13·4, and 15·1 respectively. Schools were closed at Ireleth and Dalton on account of the prevalence of measles towards the close of the year. Four deaths were ascribed to this disease, 2 to

whooping cough, and 10 to diarrhœa. Scarlet fever prevailed in epidemic form in Askam-in-Furness in the early part of the year, and school closure was found necessary; altogether 69 cases were reported, against 84 cases in the previous year. The other notifications were typhoid fever 7, diphtheria and membranous croup 13 (2 fatal), erysipelas 15, and puerperal fever 2.

Hospital Accommodation.—The joint sanatorium at High Carley was used for the isolation of 33 cases, viz., scarlet fever 25, diphtheria 7, and typhoid fever 1.

Disinfection.—No apparatus. Rooms fumigated numbered 41.

Water Supply.—The greater part of the district is supplied by the Barrow Corporation, and it is pleasing to note that an agreement is being entered into for the extension of their mains to part of the district which hitherto has had an unsatisfactory supply. A few outlying parts will still be without a reliable water supply.

Sewerage, Scavenging, &c.—Sewage is discharged into the sea after subsidence in tanks. Plans have been prepared for the relaying of sewers at Askam, and new manholes have been provided for the sewers in different parts of the district. A good deal of the nuisance which arose at the outfall of the Newton sewers, caused by the stagnation of the effluent from the tank, has been “temporarily” removed by reason of the effluent finding its way into a subsidence caused by mining operations. The mines are at present stopped, but what will happen should operations be resumed? Scavenging is performed by the Authority.

Sanitary Inspection.—Bakehouses and slaughter-houses are regularly inspected. Two of the former—underground—and 1 of the latter were condemned. Regarding slaughter-houses Dr. Patterson says they are kept in as good order as

circumstances will permit, but there is not one that would be licensed at the present time. The common lodging-house, usually reported "as a source of perennial trouble," has again required undue attention. The keeper was prosecuted for receiving inmates into an unlicensed room and a conviction was obtained, whereupon the occupier requested that the house should be removed from the register. The Council acceded to this, but it was subsequently ascertained that the house was still used as a lodging-house, and the keeper was again summoned and fined. Dairies and cowsheds—although subject to regulations—are described as "poor." Eighty-three factories and workshops are under regular inspection, and kept in fair condition. The conversion of privies into water closets progresses but slowly, 35 being so altered during the year. Notices served for the abatement of nuisances amounted to 79.

Darwen (Borough).—(Area in acres, 5,959; Estimated Population, 39,114.)—*Medical Officer of Health*, F. G. HAWORTH, M.B., D.P.H.; *Salary*, £200.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	24·0 ...	23·0 ...	27·2
Death-rate	12·8 ...	14·6 ...	16·9
Zymotic death-rate.. . . .	0·76 ...	1·54 ...	2·03
Phthisis ,,	0·56 ..	0·88 ...	0·86
Respiratory ,,	2·40 ...	3·25 ..	3·74
Rate of deaths under 1 year to 1,000 births.....	124 ...	151 ...	170

As compared with the mean of the decennial period 1893-1902 the birth and death rates show decreases of 3·2 and 4·1 per 1,000 of the population respectively. The birth-rate is higher than for the previous two years, and the death-rate is the lowest recorded during the past 10 years. A list of 44 deaths of persons who originally belonged to this borough and who died in public institutions in Blackburn was supplied to Dr. Haworth,

but too late to be classified correctly in his returns, consequently these deaths are not included in the above rates. Dr. Haworth says, another reason for not including these deaths in the Darwen statistics is that a large proportion were amongst persons who had long resided in the Blackburn workhouse, and who, therefore, would be included in the census returns of that borough. Again, statistics are given as to "deaths in regard to occupation," with a view of demonstrating the particular diseases to which certain workers are liable, and so enabling action to be taken to avert the dangers of such occupation. The zymotic and infant rates both show very gratifying reductions as compared with last year, and are the lowest recorded for many years. The Medical Officer of Health impresses upon the Council the advisability of exercising some powerful influence over the burial of "still-born" children. He suggests registration and post mortem examinations, which would act as a strong deterrent against any practice which may directly or indirectly have an influence on the life of a child. Measles, the cause of 13 deaths, was prevalent, and no less than 22 notices were served to close schools owing to its presence amongst the school children. Whooping cough gave rise to 8 deaths and diarrhoea 3 deaths. Small-pox, which appeared at the close of last year, continued to spread, the centre for this being the model lodging-house. At this time the advantage of having all the tramp population under one roof and within range of personal supervision became evident. In all, there were 27 cases reported during the year. One death occurred from this disease in the Finnington hospital (Blackburn) — a woman sent there 5 days previously to be confined. Chicken-pox was made notifiable for three months in the hope of securing every case of small-pox which from its mildness might escape notice—32 cases were reported and 1 death was due to this disease. Only 30 cases of scarlet fever occurred, the lowest number recorded for some years. A period of quiescence will very probably be observed, owing to such a large number of children having been rendered immune by being attacked.

The cases last year numbered 137, and the three preceding years contributed 231, 277, and 400 cases respectively. Typhoid fever, with 15 cases 1 death, and diphtheria, with 21 cases 4 deaths, showed a great falling off, for in the year preceding, the former disease caused 34 cases 8 deaths, and the latter 144 cases 21 deaths. The value of the notification of erysipelas (17 cases) is doubted.

Hospital Accommodation, consisting of 20 beds and 4 cots, is provided at Bull Hill, but this appears to have been entirely reserved for small-pox, 27 cases of this disease being treated.

Disinfection.—The steam apparatus at the hospital is used for disinfection of bedding, clothing, &c., in case of small-pox, but in other diseases home fumigation appears to be relied upon in the majority of cases.

Water Supply ample and of a satisfactory character.

Sewerage, Scavenging, &c.—Sewage undergoes treatment at two outfall works by precipitation and filtration. At times the effluent therefrom has not satisfied the Ribble Joint Committee. The Town Council have decided to borrow £12,000 for new tanks and sprinkler filters. Scavenging is carried out in an efficient manner by the servants of the Corporation. Over ten thousand tons of refuse were destroyed in the destructor.

Sanitary Inspection.—Bakehouses and slaughter-houses have, on the whole, been conducted satisfactorily, and the same may be said of factories and workshops. The value of a municipal lodging-house has already been referred to. Dairies and cowsheds have received a good deal of attention; the improvement, commenced some years ago, is continued. The offensive trades have been carried on without causing complaints. Food seized as unfit for human consumption was as follows:—2 beasts, 16 sheep, 3 bags sheep's feet, 23 ducks, and about 2 tons of various articles. The "tub system" has

been tried and found inefficient, so the old system has been reverted to. The Inspector (Mr. Marsden) gives details of 703 nuisances abated, after the service of 709 notices. In one instance legal proceedings were required before the necessary work was carried out. Fifteen smoke observations of one hour's duration were taken; in five instances black smoke was emitted for periods varying from $8\frac{1}{2}$ to $11\frac{1}{2}$ minutes; in four 7 minutes; one $6\frac{1}{2}$ minutes; three 5 minutes; and two $2\frac{1}{2}$ minutes or under.

Denton.—(Area in acres, 2,594; Estimated Population, 15,246.)—*Medical Officer of Health*, F. W. ALLKIN, M.B.; *Salary*, £40 (no claim).

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	25·3	...	27·7	...	26·6
Death-rate	14·8	...	15·9	...	17·6
Zymotic death-rate.....	1·37	...	2·17	...	1·68
Phthisis ,,	1·04	...	1·05	...	1·35
Respiratory ,,	1·83	...	2·69	...	2·87
Rate of deaths under 1 year to 1,000 births.....	180	...	158	...	181

Dr. Allkin reports that the annual rates as regards deaths from all causes and from zymotic diseases compare favourably with last year, but the rate of deaths under 1 year to 1,000 births shows a considerable increase, and is unsatisfactory. Circulars dealing with the feeding and care of infants have been printed, and a copy is sent to each house soon after a birth has been registered. Measles was rather prevalent in June, and a fair number of cases of whooping cough came under notice; the former caused 5 deaths and the latter 4 deaths. Diarrhœa contributed 5 deaths. Six cases of small-pox were notified, all in the first half of the year. Chicken-pox was made notifiable for a period of six months from the 1st of March, and during that period 37 cases were reported.

Seventy-four cases of scarlet fever occurred, scattered generally throughout the district; 2 deaths resulted. Legal proceedings were instituted in one instance for exposing a patient suffering from this disease, and a fine was inflicted. Typhoid fever was the cause of 19 cases 2 deaths, diphtheria and membranous croup 17 cases 3 deaths, erysipelas 18 cases, and puerperal and continued fevers 1 case each. The Council supply diphtheritic antitoxin free of charge to necessitous cases, and this has been taken advantage of by the medical men, with good results.

Hospital Accommodation.—A retaining fee is paid for the use of two beds at the Hyde Corporation hospital, but this is not sufficient for the needs of the district. Only seven cases were removed, viz., small-pox 4, and scarlet fever 3.

Disinfection.—The want of efficient disinfecting appliances is much felt. Houses are fumigated by means of sulphurous acid gas.

Water Supply obtained from Manchester.

Sewerage, Scavenging, &c.—The sewage is dealt with chiefly by precipitation in tanks by means of lime. The effluent is then filtered through cinders and polarite, and afterwards discharged into the River Tame. Bacteria beds are in course of construction. On two occasions the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent. Scavenging is performed by the Council's own staff.

Sanitary Inspection.—No serious defects were discovered at the bakehouses, slaughter-houses, dairies, and cowsheds. As the result of a special inspection of the factories and workshops many desirable improvements were carried out. Sixty notices were served for nuisance abatement, and nearly all were complied with. Eleven smoke observations were taken.

Droylsden.—(Area in acres, 1,010; Estimated Population, 11,500).—*Medical Officer of Health*, ANDREW GELLATLY, M.B.; *Salary*, £25 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	26·5 ...	32·0 ...	30·9
Death-rate	14·6 ...	17·3 ...	17·7
Zymotic death-rate.. ..	0·95 ...	2·67 ...	2·42
Phthisis ,,	1·21 ...	0·71 ...	0·93
Respiratory ,,	3·39 ...	4·01 ...	3·92
Rate of deaths under 1 year to 1,000 births.....	154 ...	161 ...	166

The statistics presented by Dr. Gellatly are marked by reductions of 5·5 and 2·7 per 1,000 in the birth and death rates respectively, as compared with last year, and the zymotic rate declined 1·72. All these rates are the lowest recorded during the last 10 years. The infantile mortality is also more satisfactory. Measles, which in 1902 occasioned 19 deaths, caused only 1 death in the year under review. Whooping cough contributed 2 deaths, and diarrhoea 6 deaths. Four cases of small-pox were reported; the first occurred in April—a boy attending school in an adjoining district—and as previous cases had occurred amongst children attending the same school, the infection was probably caught there. The other 3 cases occurred in June in one house; the first was a young man who had just returned from America, and the attack was so mild that it was not suspected as small-pox, nor was any medical man called in until his father and sister were attacked. The young man was not removed to hospital as he was nearly convalescent when the case was notified. The scarlet fever cases (47) were of a mild type, and no deaths resulted. Typhoid fever caused 6 cases, diphtheria and membranous croup 12 cases 2 deaths, erysipelas 11 cases, and puerperal fever 1 case.

Hospital Accommodation.—Four cases were removed to the Hyde hospital, viz., small-pox 3, and scarlet fever 1.

Disinfection and Water Supply.—No information.

Sewerage, Scavenging, &c.—In November of 1902 the Council were, at the instigation of the Mersey and Irwell Joint Committee, fined £50 and costs for river pollution, and as the Chief Inspector reported in July of the year under report that no improvement had been effected, and the works were in a most unsatisfactory condition, further proceedings were instituted and resulted in fines of £20 and costs. Scavenging is carried out under the supervision of the Nuisance Inspector. As the Council are now seriously considering the desirability of erecting a refuse destructor, there is every probability that the tip nuisance will soon cease.

Sanitary Inspection.—Model bye-laws in reference to slaughter-houses were adopted in October, and a special inspection of these premises took place. Cowsheds have had considerable attention. New houses are now provided with water closets, but there are over 1,000 privy middens in the district. It was not found necessary to serve any statutory notices, as the nuisances discovered—199 in number—were abated upon attention being drawn thereto. Form C has again not been supplied.

Eccles (Borough).—(Area in aerea, 2,057 ; Estimated Population, 35,600.)—*Medical Officer of Health*, W. M. HAMILTON, M.D., D.P.H. ; *Salary*, £150.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	28·4 ...	27·1 ...	26·9
Death-rate	14·8 ...	15·8 ...	16·2
Zymotic death-rate.....	1·65 ...	2·25 ...	2·66
Phthisis „	0·92 ...	0·82 ...	1·28
Respiratory „	2·61 ...	2·57 ...	2·76
Rate of deaths under 1 year to 1,000 births.....	121 ...	112 ...	159

The birth-rate is the highest since 1895, corresponding to

1·5 per 1,000 above the mean of the preceding decade, and it is gratifying to note a diminution in the death-rate, which, only once during the last 27 years, has been more satisfactory. The ward birth-rate varied from 34·5 in Barton, to 32·5 in Irwell, 31·3 in Winton, 28·3 in Patricroft, 22·1 in Eccles, and 21·0 in Monton and Park; and the death-rates were—Monton and Park 10·0, Winton 13·0, Eccles 13·6, Patricroft 15·1, Barton 17·6, and Irwell 20·0. The zymotic rate was the lowest since 1894, and the rate of deaths under 1 year to 1,000 births was, with the exception of last year, the most favourable recorded during the 10 years. Measles caused 15 deaths, and was very prevalent from February to May; 831 cases of this disease were notified by the teachers of public schools, and five schools were closed for periods varying from two to three weeks. Diarrhoea contributed 11 fatalities, and whooping cough 2. Small-pox gave rise to 14 cases 2 death; the first, second, and third cases were removed from the Union Work-house, the fourth from the Eccles common lodging-house, the eleventh from the lodging-house at Patricroft, and the remainder from private houses. Special inspections of the lodging-houses and their inmates were constantly made, and for 14 days after a case had occurred new comers were excluded unless they submitted to re-vaccination or had recently been re-vaccinated. Legal proceedings were taken in respect of failure to notify a case of small-pox, and also against a person for exposing himself whilst infected; in both cases fines were inflicted. Chicken-pox was made notifiable for a period of 12 months, ending January 31st, 1904; 92 cases were reported during 1903 by medical men, and 140 from the schools. The number of reported cases of scarlet fever was below the average for the last three years, being 139, as compared with 191 for 1902, 148 for 1901, and 254 for 1900. There were 3 deaths due to this disease. Several of the cases were of so mild a type that they were not recognised until the stage of desquamation was reached. Sixteen cases (3 deaths) were ascribed to typhoid fever, against 33 cases (4 deaths) in

the previous year. In 3 of the cases the infection was definitely traced to the eating of shell-fish. Seventeen specimens of blood were submitted to bacteriological examination, in 6 of which a positive re-action was obtained. Diphtheria again had a wide spread, especially in the months of January, February, and March. Altogether 127 attacks took place, and 23 deaths resulted. Sixty per cent. of the cases were removed to hospital, and amongst other measures school closure was resorted to. In 53 instances swabs were taken for examination, and in 25 the diphtheria bacilli were found. Erysipelas contributed 21 cases, and puerperal fever 2 cases. During the year the following notifications were received from the various schools—measles 831, chicken-pox 140, whooping cough 29, mumps 71, eczema 63, ringworm 16, and other diseases 66, making a total of 1,216. Special reference is made to school hygiene, and it is suggested that instructions given to teachers regarding the early symptoms of disease might, and very probably would, result in the prevention of a vast amount of sickness by the early discovery of mild or incipient cases. Voluntary notification of phthisis was adopted some time ago; during the year under review only 34 cases were reported.

Hospital Accommodation.—An agreement has been entered into with the Salford Corporation for the use of 20 beds at their infectious hospital, for which an annual subsidy of £60 is paid. The cases removed numbered 128, viz., small-pox 14, scarlet fever 31, typhoid fever 5, diphtheria 77, and puerperal fever 1.

Disinfection.—Steam apparatus is available. Two schools and 481 rooms were fumigated with sulphur and the walls sprayed.

Water Supply excellent; obtained from the Manchester Corporation waterworks.

Sewerage, Scavenging, &c.—Sewage is treated by intermittent downward filtration and broad irrigation. The Mersey and Irwell Joint Committee have complained, on two occasions, as to the character of the effluent. The Corporation have a scheme in hand for additional tanks and bacteria beds. The smoke test was applied to 348 house drains, and 187 were opened for inspection. The report of the scavenging superintendent gives evidence of maintained efficiency. A destructor is almost completed at a cost of about £4,250.

Sanitary Inspection.—Bakehouses, slaughter-houses, and lodging-houses were regularly inspected, the number of visits during the year amounting to 192, 57, and 162 respectively. The Health Committee inspected the underground bakehouses, and as a result all have been closed. The cowsheds were inspected on 46 occasions, and 135 visits of inspection were paid to milkshops. The usual difficulty was experienced in persuading cow-keepers to keep the shippens properly ventilated. Every place used as a factory or workshop has been carefully examined as regards its cleanliness, ventilation, and provision of suitable sanitary conveniences. Eleven workshops were found to require limewashing, and there was 1 case of overcrowding. The number of privy middens now in existence in the Borough (December 31st) is 2,555—91 having been converted into water closets, and 36 entirely abolished during the year. All the privy middens in connection with schools have been, or are about to be, abolished. Sixty-one canal boats were examined—their general condition was satisfactory, but the number of infringements of the Acts and Regulations was slightly in excess of previous years. The Chief Inspector (Mr. Laskey) gives details of a vast amount of sanitary work accomplished. Nuisances remedied amounted to 2,422, and notices served 181. Legal proceedings were instituted in 4 instances. Twenty-eight smoke observations were taken. A public mortuary was erected at the town's yards, Patricroft, in May last.

Failsworth.—(Area in acres, 1,072: Estimated Population, 14,500.)—*Medical Officer of Health*, G. W. BEATTIE, M.D.: *Salary*, £50.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	28·5 ...	29·2 ...	31·8
Death-rate	16·4 ...	17·0 ...	18·5
Zymotic death-rate.....	2·20 ...	1·82 ...	2·20
Phthisis ,,	0·89 ...	1·19 ...	1·48
Respiratory ,,	2·41 ...	2·73 ...	3·45
Rate of deaths under 1 year to 1,000 births... ..	152 ...	163 ...	175

The birth, death, and infant rates all show fractional decreases as compared with last year, and are the lowest recorded for some years. The zymotic rate is increased, owing to the large number of deaths from measles, viz., 17, against 1 death in the previous year. The disease was very prevalent in August and December, and necessitated school closure. Whooping cough and diarrhoea each contributed 3 deaths. Eight cases of small-pox were notified, 1 from Higher Ward and 7 from Lower Ward; 2 deaths resulted. All the cases were immediately removed to hospital, and the contacts vaccinated or re-vaccinated. Chicken-pox was made notifiable for 12 months, and 36 cases were reported. Scarlet fever contributed 39 cases 2 deaths, typhoid fever 4 cases 3 deaths, diphtheria and membranous croup 6 cases 2 deaths, erysipelas 11 cases, and continued fever 1 case.

Hospital Accommodation.—By agreement cases are treated in the Oldham Corporation hospitals, but only 11 were removed during the year, viz., small-pox 7, scarlet fever 2, and typhoid fever 2. One case of small-pox was removed to the Manchester hospital at Clayton.

Disinfection.—No special appliances provided; 60 rooms were fumigated either with sulphur or formalin. In a few

instances the bedding, &c., was disinfected in the Oldham steam apparatus.

Water Supply generally obtained from Oldham; a few cottages are supplied with Manchester water.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation, polarite filter beds, and land filtration. At times the effluent has not satisfied the Mersey and Irwell Joint Committee. In August the Council were summoned for polluting the Moston Brook and the Rivers Irk and Medlock. The Bench adjourned the case, and directed that a scheme be formulated within a specified period. Scavenging is carried out by the Authority in a creditable manner. Many backyards require paving and flagging.

Sanitary Inspection.—Eight old cottages, unfit for human habitation, were demolished. Bakehouses—16 in number—are, with two exceptions, a portion of the ordinary dwelling-houses, the baking being done in the rooms at the rear of the premises. There are no underground bakehouses in the district. Slaughter-houses are kept clean, and, on the whole, are fairly satisfactory. Notices were served on the owners of three farms, calling attention to several defects arising from insanitary closet accommodation, defective roofs, absence of proper water supply, defective drainage arrangements, and dilapidated condition of farm buildings. In two instances the defects were remedied, whilst in the third the premises were closed and afterwards demolished. Factories and workshops received attention regarding cleanliness, adequate sanitary accommodation, and ventilation. Thirty-five privy middens and nine pail closets were converted to the water-carriage system. Canal boats examined numbered 34, and no serious contravention of the Acts was discovered. The Inspector (Mr. Wharton) served 52 notices, secured the abatement of 301 nuisances, took 26 smoke observations, &c.

Farnworth.—(Area in acres, 1,504; Estimated Population, 26,000).—*Medical Officer of Health*, ALFRED KERSHAW, M.D.; *Salary*, £40 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate..... ..	29·0 ..	28·5 ...	31·2
Death-rate	18·0 ..	16·7 ...	19·7
Zymotic death-rate.....	2·19 ...	2·23 ...	2·91
Phthisis ,,	0·80 ...	1·07 ...	1·14
Respiratory ,,	2·76 ...	2·73 ...	3·58
Rate of deaths under 1 year to 1,000 births..... ..	211 ..	200 ...	224

The birth-rate for the year under review is the highest recorded since 1898, and the death-rate—excepting last year—is the lowest for 10 years past. The zymotic rate is still above the average of the County urban districts, whilst the infantile mortality is excessive. For the last 9 years the rate of deaths under 1 year to 1,000 births has exceeded 200—a most unsatisfactory state of things. Dr. Kershaw says “this state of matters will continue so long as children are fed on unsuitable food, for it is not only that so many die from this cause, but they become so weakened by it that they readily succumb to bronchitis, diarrhœa, whooping cough, and other diseases. It is no uncommon thing to find children a few months old being fed on bread, potatoes, bacon, etc.” Twenty-one deaths were due to diarrhœa, 9 to whooping cough, and 1 death to measles. Twenty-five cases of small-pox were notified between January and August, and they were all removed to hospital where 2 died. None of the persons attacked had been vaccinated, except 2 who were only revaccinated after they had contracted the disease. Scarlet fever again had an extensive prevalence, many cases being no doubt caused by the non-discovery of mild attacks. Altogether 334 persons suffered from this disease, and 11 deaths took place; last year 208 cases and 10 deaths occurred, and 196 cases 9 deaths in 1901. Hospital isolation took place in 81 per cent. of the scarlet fever

notifications. Typhoid fever was responsible for 41 cases 10 deaths, diphtheria and membranous croup 21 cases 3 deaths, erysipelas 20 cases, and puerperal fever 5 cases.

Hospital Accommodation.—The hospital has been very much in use, the scarlet fever wards at times being overcrowded. The temporary small-pox hospital amply justified its erection, but as it is understood that this arrangement cannot be permanent, Dr. Kershaw advises the Council to join in any suitable small-pox hospital scheme that the County Council or other Authority may formulate. The total cases treated in hospital amounted to 332, viz., small-pox 25, scarlet fever 273, typhoid fever 28, and diphtheria 6.

Disinfection.—Steam apparatus is available; infected houses undergo sulphur fumigation.

Water Supply good, from Bolton Corporation.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. On one occasion the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent. Scavenging is undertaken by the Authority.

Sanitary Inspection. — Bakehouses, slaughter-houses, factories and workshops, dairies, cowsheds, and milkshops, are all described as “satisfactory,” but the lodging-houses do not altogether comply with the bye-laws. “Much good work has been done during the year, many streets paved and backyards improved; but there are still many privy middens which are a source of disease, and it must be borne in mind that unpaved streets are, owing to their dampness, a source of ill-health to the residents.” Notices served amounted to 127, and a like number of nuisances were abated. Smoke observations amounted to 47.

Fleetwood.—(Area in acres, 2,510; Estimated Population, 13,250.)—*Medical Officer of Health*, W. H. ROBINSON, M.R.C.S.; *Salary*, £80 (including £20 for the Port).

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	32·5 ...	32·7 ...	31·5
Death-rate	13·0 ...	15·0 ...	15·4
Zymotic death-rate.....	1·66 ...	1·30 ...	2·07
Phthisis	0·52 ...	0·92 ...	0·87
Respiratory ,,	1·81 ...	1·69 ..	2·53
Rate of deaths under 1 year to 1,000 births	106 ..	105 ...	149

The birth-rate is almost the same as last year, but the death-rate shows a reduction of 2·0 per 1,000 of the population. The former—excepting last year—is the highest recorded since 1897, whilst the death-rate is lower than any recorded during the preceding decennial period. The zymotic and infant rates are fractionally in excess of 1902, but both are well below the average of the 10 years 1893-1902. There were 10 deaths from measles, which was epidemic in the district during the months April to July. Diarrhoea contributed 6 deaths. As compared with last year scarlet fever had a considerably diminished prevalence only 21 cases being notified with 4 deaths, against 187 cases and 10 deaths. Typhoid fever was the cause of 7 cases, diphtheria 5 cases 2 deaths, erysipelas 21 cases, and puerperal fever 2 cases. Notices of the presence of infectious disease are sent to the day and Sunday school authorities, warning them not to receive children from the infected houses; also to the public librarian who in such cases does not lend books, and if any are out they are called in and disinfected.

Hospital Accommodation is provided for small-pox at Elswick, and at Moss Side for other infectious diseases. Only 2 cases of scarlet fever were removed during the year.

Disinfection.—Infected rooms are fumigated with sulphurous acid gas, and articles of clothing, &c., receive disinfection in the steam apparatus.

Water Supply is good, obtained from the Grisedale Moors belonging to the Fylde Water Board.

Sewerage, Scavenging, &c.—Sewage is still discharged into the harbour, but provisional sanction has been obtained for carrying out a new diversion scheme to discharge all sewage into the sea on the west side of Rossall Land Mark. Flushing of sewers was carried out as in previous years. Scavenging is properly carried out by the Council's men, and the refuse is taken to the destructor. In many parts of the town the unmade streets are in "a disgraceful and insanitary condition."

Sanitary Inspection.—Bakehouses—20 in number—are satisfactory, except 2 underground, which have received provisional licences. The slaughter-house buildings are old, but are kept clean and have had the lighting improved—supervision is carried out in an efficient manner. The inspection of common lodging-houses is attended to, and the bye-laws for their regulation, as far as possible, enforced. Dairies and cowsheds and factories and workshops are "fairly satisfactory." The privy and ashpit nuisance has disappeared, water closets in every case having been substituted; but a few dry-earth closets still exist. The Inspector (Mr Gaulter) served 885 notices, secured the abatement of 1,311 nuisances, took several smoke observations, &c.

The Port Sanitary Authority.—No case of infectious disease has occurred on any vessel arriving at the Port. The hospital—which was last used in 1894—continues in readiness for the reception of patients suffering from infectious disease. The Inspector examined 111 vessels, and in addition made 48 re-examinations. When deemed necessary, verbal orders were given, and in all cases these were complied with.

Fulwood.—(Area in acres, 2,116; Estimated Population, excluding Public Institutions, 2,994.)—*Medical Officer of Health*, JOHN GARTH, L.R.C.P.I.; *Salary*, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	17·3 ...	19·0 ...	23·2
Death-rate	13·0 ...	14·3 ...	12·9
Zymotic death-rate.....	1·33 ...	0·34 ...	0·34
Phthisis ,,	0·33 ...	0·34 ...	0·65
Respiratory ,,	2·33 ...	2·72 ...	0·23
Rate of deaths under 1 year to 1,000 births	76 ...	107 ...	85

The population of the public institutions in this district, namely, workhouse, barracks, convent, &c., is estimated at 2,650, and in calculating the various averages the deaths in these places (146) are excluded. The birth-rate is again low, and 5·9 per 1,000 of the population below the mean of the 10 years 1893-1902. The mortality statistics—with the exception of the zymotic rate—compare favourably with last year's averages. Measles and whooping cough caused very little sickness; to the latter 1 death was ascribed. In the district proper 16 cases were notified, viz., scarlet fever 14, and typhoid fever 2. The former disease caused 2 deaths, and the latter 1 death. Eight cases were notified in the workhouse—2 typhoid fever and 6 erysipelas—and 4 cases of scarlet fever occurred in the Blind Home.

Hospital Accommodation.—The new joint hospital is well advanced towards completion. Provision is made at Elswick for any case of small-pox that may arise.

Disinfection.—Hot air stove provided. Houses are fumigated with sulphur.

Water Supply good, obtained from Beacon Fell.

Sewerage, Scavenging, &c.—The septic tanks and filters

have been in operation some time, but the draining of the district has only recently been completed. The Authority carry out scavenging in a satisfactory manner; a refuse destructor would be of value.

Sanitary Inspection.—Nothing calls for any specific report in connection with bakehouses, slaughter-houses, factories and workshops, and dairies and cowsheds. Four farms were fitted with a proper water supply. The Inspector (Mr. Naylor) reports that it was only necessary to serve one notice for nuisance abatement, other nuisances being remedied on his verbal recommendation.

Golborne.—Area in acres, 1,679; Estimated Population, 7,000).—*Medical Officer of Health*, JAMES DOBB, L.R.C.P.; *Salary*, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 8 years, 1895-1902.
Birth-rate.....	34.5 ...	38.1 ...	34.6
Death-rate	19.0 ...	18.8 ...	17.6
Zymotic death-rate.....	3.42 ...	1.85 ...	2.35
Phthisis ,, 	0.42 ...	0.85 ...	0.57
Respiratory ,, 	4.28 ...	2.57 ...	3.15
Rate of deaths under 1 year to 1,000 births... ..	165 ...	112 ...	167

The general death-rate varies but fractionally from that of last year, but the birth-rate, although still above the average of the County districts, shows a reduction of 3.6 per 1,000 of the population. The zymotic and infant rates are considerably higher, the increase being due principally to the large number of deaths from whooping cough. There was a serious outbreak of this disease during the last two months of the year, and 18 deaths resulted, 11 occurring amongst children under the age of 12 months. Diarrhoea caused 5 fatalities. There was a decrease in the number of notifications received, viz., 29, as

compared with 52 in the previous year. Scarlet fever contributed 18 cases (1 fatal), diphtheria 3 cases, and erysipelas 8 cases.

Hospital Accommodation.—The whole of the scarlet fever and diphtheria cases were removed to the joint hospital at Astley.

Disinfection.—No apparatus.

Water Supply good and ample, obtained from the reservoirs of the Ince Urban Council, situate in this district.

Sewerage, Scavenging, &c.—Sewage is treated in bacteria beds, the effluents being reported as very satisfactory. Scavenging is carried out by the District Council in an efficient manner.

Sanitary Inspection.—Regular inspections are made of the bakehouses, slaughter-houses, lodging-houses, and dairies and cowsheds. Factories and workshops are also under constant supervision. Notices served for nuisance abatement amounted to 74, and all, except 2, were complied with. Dr. Dobb draws attention to the urgent necessity of an increase in the area of the burial ground.

Gorton.—(Area in acres, 1,147; Estimated Population, 28,500.) — *Medical Officer of Health*, A. W. MARTIN, L.R.C.P., D.P.H.; *Salary*, £80.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	34.2 ...	38.9 ...	34.7
Death-rate	18.9 ...	19.0 ...	19.5
Zymotic death-rate.....	2.59 ...	2.72 ...	3.89
Phthisis ,,	1.47 ...	1.09 ...	1.24
Respiratory ,,	3.75 ...	3.74 ...	3.85
Rate of deaths under 1 year to 1,000 births.....	199 ...	152 ...	192

As compared with the previous year, the birth-rate

showed a decrease of 4·7 per 1,000 of the population; the general death-rate is almost the same. The zymotic rate is slightly reduced, but the rate of deaths under 1 year to 1,000 births rose from 152 to 199. The ward death-rate was as follows:—Town Hall 21·1, St. James' 18·9, and Abbey Hey 15·9. Measles caused 6 deaths, against 27 in 1902. An epidemic of this disease occurred during September and October amongst the children attending a certain school, and it was considered advisable to close the schools for a period of three weeks. Whooping cough also contributed 6 deaths. For some years past diarrhœa has been very prevalent, and the year under report was no exception, 45 deaths resulting therefrom, equal to a rate of 1·58 per 1,000 of the population. The deaths and death-rates from diarrhœa for the last eight years were as follows:—

	1903.	1902.	1901.	1900.	1899.	1898.	1897.	1896.
Number of deaths	45	20	77	68	71	109	46	20
Death-rate per } 1,000 of the } population }	1·58	0·72	2·85	2·34	2·7	4·5	2·0	0·9

At the request of the Local Government Board, Dr. Martin prepared a special report on the prevalence of diarrhœa, and the following paragraphs are extracted:—

“The annual epidemic of typhoid and summer diarrhœa is connected with and dependent upon the common house-fly breeding in the privy middens of the district. The annual epidemic of diarrhœa begins with and ends with the appearance of the domestic fly.

“A hot, dry summer produces an abundance of house-flies, and diarrhœa makes its appearance in about a week after the flies appear in large numbers. The diarrhœa sickness fluctuates and keeps pace with the temperature of the atmosphere, which is much influenced by the rainfall; also, the number of flies keep pace with the temperature of the atmosphere and the rainfall.

"It is rare for the epidemic to begin before July, if it does there will be found to have been several weeks of very hot weather in the early part of June and large numbers of flies. Also, it is rare for it to continue beyond October 15th, and, if so, it will be noticed that the warm weather continued into the autumn longer than usual.

"The atmospheric changes are but secondary causes in the production of the disease, namely, as influencing the appearance and disappearance of the common house-fly, and also as effecting their numbers. The principal factors in the production of the disease are two, namely, privy middens and flies, the latter conveying the germs from the privy middens on to food, which is almost exclusively cows milk."

Small-pox gave rise to 11 cases 2 deaths; the first case occurred in April, a brickfield labourer working in Manchester, the disease being attributed to tramps sleeping in the brick-kilns where the man worked. The second and the third cases were persons having recently come from Ashton-under-Lyne, where they had been in contact with a small-pox case. The other 8 cases formed a series extending from October 12th to November 13th, the result of an error in diagnosis by a medical man, several cases of small-pox in children being diagnosed as, and treated for, chicken-pox, in a part of Manchester bordering on this township. Legal proceedings were instituted for failing to notify the disease, the magistrates inflicting a fine. All the cases received hospital isolation. Scarlet fever gave rise to 132 cases 2 deaths, as compared with 124 cases 8 death last year. Dr. Martin, contrary to general opinion, states that he believes that "scarlet fever can be treated at home with better results to the community than by hospital isolation." Typhoid fever was responsible for 43 cases 8 deaths, diphtheria and membranous croup 19 cases 5 deaths, erysipelas 18 cases, and continued fever 1 case.

Hospital Accommodation.—A small-pox hospital (10 beds) was completed at the beginning of the year, and was used for

the isolation of 11 cases of small-pox. Fifty cases, viz., scarlet fever 34, typhoid fever 13, diphtheria 1, and erysipelas 2, were removed to hospitals situated outside the district. To Withington 41 were sent, 6 to Stockport, and 3 to Manchester. The 50 patients cost £499 13s. 1d., or an average of £9 19s. 10d. per patient.

Disinfection.—Steam apparatus at Manchester is available. Houses are fumigated with sulphur or chlorine gas.

Water Supply obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—The Order of Court obtained by the Mersey and Irwell Joint Committee expired in October. In the meantime new tanks had been constructed for dealing with storm water, which caused serious pollution of Gore Brook. These have now been brought into operation, and enable a much larger volume of sewage to be dealt with. The Authority carry out scavenging in a satisfactory manner; a refuse destructor is in course of erection.

Sanitary Inspection.—Bakehouses (17), slaughter-houses (3), and premises where offensive trades are carried on (3) have been regularly visited to ensure the requisite cleanliness and the systematic removal of refuse. Dairies and cowsheds are described as “fairly satisfactory.” Several alterations were recommended and carried out at the factories and workshops. Privy middens converted to water closets numbered 27, but about 2,000 of these objectionable conveniences still remain. The Inspector (Mr. Cheetham) reports on nuisances abated after the service of 146 notices, including house drains repaired 126, ashpits repaired 72, ashpits reconstructed 68, yards and passages repaired 41, waste-pipes and downspouts repaired 36, accumulations of manure removed 30, &c. Nine smoke observations were taken.

Grange-over-Sands.—(Area in acres, 1,540; Census Population, 1,993.)—*Medical Officer of Health*, G. H. PATTERSON, M.R.C.S., D.P.H.; *Salary*, £30.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	13·0	...	10·5	...	13·6
Death-rate	12·0	...	11·0	...	10·8
Zymotic death-rate.....	nil	...	nil	...	0·39
Phthisis ,,	1·00	...	3·51	...	1·63
Respiratory ,,	1·50	...	1·00	...	1·51
Rate of deaths under 1 year to 1,000 births.....	115	...	95	...	81

The general death-rate (12·0) includes the deaths of five non-residents; excluding these the rate for the residential population is 9·5. From zymotic diseases there has not been a single death, and this is the second year in succession that no fatality was due to any of these causes. Likewise for the second successive year not a single notification of infectious disease was received; during the last six years only 10 cases have been reported. The attempt to procure voluntary notification of phthisis failed.

Hospital Accommodation nil.

Disinfection.—No apparatus.

Water Supply ample, and as regards quality above suspicion.

Sewerage, Scavenging, &c.—The new sewerage and fore-shore improvement scheme is still in hand, delay in completion having taken place through the wet summer and autumn. The work of refuse removal is undertaken by the Council.

Sanitary Inspection.—Bakehouses were specially inspected, and it was found that 2 came under the head of underground bakehouses; with slight alterations they were considered suitable places for registration. There are no

dairies or cowsheds in the district, and only one slaughter-house, which is fairly well kept. It was not found necessary to serve any statutory notice for nuisance abatement. Meteorological statistics are appended.

Great Crosby.—(Area in acres, 1,097; Estimated Population, 8,014).—*Medical Officer of Health*, W. S. LIMRICK, L.R.C.P.E.; *Salary*, £60.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	21·6	...	17·8	...	20·9
Death-rate	9·8	...	11·1	...	10·9
Zymotic death-rate.....	0·24	...	0·64	...	0·92
Phthisis ,,	0·39	...	0·51	...	0·71
Respiratory ,,	1·61	...	2·05	...	1·95
Rate of deaths under 1 year to 1,000 births.....	91	...	136	...	107

The statistics presented by Dr. Limrick are marked by an increase in the birth-rate of 3·8, and a decrease in the death-rate of 1·3 per 1,000 of the population as compared with last year. A gratifying reduction is also noticed in the zymotic and infant rates. Only 2 deaths were ascribed to zymotic diseases, viz., typhoid fever and diphtheria 1 death each. Fifty notifications were received, against 78 last year. Scarlet fever contributed 30 cases, typhoid fever 4, diphtheria 11, erysipelas 1, and continued fever 1.

Hospital Accommodation.—Sixteen patients were treated from this district at the Bootle Corporation hospital. An annual contribution of £171 is paid for maintenance, and the patients expenses amounted to £63 11s. 6d.

Disinfection.—The gas stove was used 46 times and 552 articles were disinfected. Seventy-two rooms were fumigated.

Water Supply good, obtained from Liverpool.

Sewerage, Scavenging, &c.—Sewage is discharged into the sea. Drains of 278 premises were tested during the year. Scavenging is performed in a satisfactory manner by the Authority.

Sanitary Inspection.—A careful inspection was made of the bakehouses, special attention being paid to those underground; factories and workshops were examined, with good results. Dairies and cowsheds are described as “good.” The Inspector (Mr. Wilson) served 118 notices for the abatement of nuisances, many being of a comprehensive character. Two smoke nuisances were abated. Meteorological statistics are appended.

Great Harwood.—(Area in acres, 2,868; Estimated Population, 12,500.)—*Medical Officer of Health*, JOHN PATCHETT, L.R.C.P.E.; *Salary*, £40.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	25·8 ...	25·3 ...	27·6
Death-rate	12·6 ...	13·5 ...	14·5
Zymotic death-rate.....	1·12 ...	1·30 ...	1·48
Phthisis ,, 	0·80 ...	0·57 ...	0·88
Respiratory ,, 	2·32 ...	2·04 ...	2·59
Rate of deaths under 1 year to 1,000 births.....	102 ...	161 ...	144

The mortality statistics under review compare favourably with those of the previous year, and with the averages of the decennial period 1893-1902. The general death-rate and the infant rate are the lowest recorded for 10 years, the former excepted in 1899. Measles was the cause of 7 deaths; during the latter part of November the cases became so numerous that it was deemed advisable to close some of the schools. Diarrhœa contributed 3 deaths. A case of small-pox was notified in August—the patient, a man who had just returned

from a seaside resort, was at once removed to the Blackburn Corporation hospital at Finnington. Scarlet fever gave rise to 92 cases and 1 death. The attacks—apparently an extension of the epidemic of 1902—were not confined to any particular locality. The reckless practice of visiting at infected houses contributed in no small degree to the spread of the disease. Typhoid fever accounted for 15 cases 2 deaths. diphtheria 4 cases 1 death, erysipelas 9 cases, and continued fever 2 cases.

Hospital Accommodation.—Nil.

Disinfection.—No proper appliances.

Water Supply good, obtained from Dean Clough reservoir belonging to the Accrington and District Water Board.

Sewerage, Scavenging, &c.—The Clayton-le-Moors and Great Harwood Joint Sewerage Board have obtained the sanction of the Local Government Board to borrow £6,500 for laying out of land and providing storm-water filters at the sewage works. The Ribble Joint Committee have urged the Joint Board to proceed with the work as rapidly as possible. Scavenging has again been satisfactorily performed by the Council's officials. Many back yards have been flagged, and several streets sewered, channelled, and paved.

Sanitary Inspection.—Twenty-three houses have been reported as unfit for human habitation, 15 were voluntarily closed by the owners, and the remaining 8 are about to be so altered as to make them habitable. Bakehouses are described as "fairly satisfactory" and slaughter-houses as "good." The dairy farms have been periodically inspected—some are highly satisfactory, but at others there is much room for improvement. Nuisances remedied amounted to 107, and notices served 37. "Frequent" smoke observations are taken.

Haslingden (Borough).—(Area in acres, 8,196; Estimated Population, 18,743.)—*Medical Officer of Health*, J. A. HARRISON, M.D.; *Salary*, £50.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	22·9 ...	22·3 ...	23·7
Death-rate	15·8 ...	15·4 ...	16·0
Zymotic death-rate.....	1·06 ...	2·10 ...	1·87
Phthisis ,,	0·74 ...	0·80 ...	0·98
Respiratory ,,	3·36 ...	2·58 ...	3·17
Rate of deaths under 1 year to 1,000 births.....	153 ...	146 ...	166

With the exception of the zymotic rate, which is reduced 1·04 per 1,000 of the population, the statistics presented by Dr. Harrison vary but little from those of the preceding year. As compared with the mean of the 10 years 1893-1902 the death-rates are slightly more favourable. The birth-rate was highest in Town Ward (28·9), and lowest in Syke Ward (20·5); the first-named ward had also the highest death-rate, viz., 24·3, and Acre Ward (11·2) had the lowest. In 1902 measles was the cause of 16 deaths, but during the year under review not a single fatality was due to this cause. Diarrhoea contributed 8 deaths and whooping cough 3 deaths, as compared with 8 deaths and 1 death respectively in the preceding 12 months. On February 9th a case of small-pox broke out in Grane Ward, and this was followed at intervals by 22 others; all were removed to hospital, where 2 terminated fatally. Scarlet fever was responsible for 58 attacks and 1 death, the greatest number of cases occurring in Town, Holden, and Acre Wards. Typhoid fever gave rise to 11 cases 1 death, diphtheria and membranous croup 50 cases 5 deaths, and erysipelas 20 cases. Dr. Harrison recommends notification in cases of phthisis, followed by disinfection of houses in which phthisical patients have lived.

Hospital Accommodation.—The use of the old farmhouse

at Clod as a small-pox hospital was discontinued, the bedding, furniture, &c., being transferred to a temporary hospital erected at Copy Farm. The latter consists of a small farmhouse and outbuildings, with about two acres of land, situated on the edge of the high moor, on the north-west side of the town. The Corporation purchased it as a site for a small-pox hospital, and, after inquiry, the consent of the Local Government Board was obtained to borrow £2,800. No steps have yet been taken to erect the new hospital. Twenty-two small-pox patients were treated at Clod Farm, and one in the temporary hospital at Copy. No accommodation is available for the treatment of ordinary infectious cases.

Disinfection.—Steam apparatus provided. Eighty-one houses were fumigated.

Water Supply.—The majority of houses in the borough are supplied with water by the Joint Board from Clough Bottom and Hapton reservoirs. Stonefold is now fairly well supplied by a small water scheme of its own, but Carrs and Acre still need some attention in this matter, houses at both places being still supplied by surface wells, liable to pollution.

Sewerage, Scavenging, &c.—Sewage undergoes treatment by the bacterial process at the joint outfall works at Ewood Bridge. On two occasions during the year the Mersey and Irwell Joint Committee drew attention to unsatisfactory effluents. Nearly all the populous parts of the borough have now been connected up with the new system of sewers. Scavenging is performed by the Corporation workmen. In consequence of the great difficulty in finding suitable places for the purpose of tipping refuse need of a refuse destructor has been much felt. Application was made to the Local Government Board for leave to borrow money to erect one on land at Prinny Hill Bridge, but, in consequence of the opposition which came forward at the local inquiry, permission was not granted. The tip at Helmshore has become so objectionable that it has become absolutely necessary to cease tipping

refuse there, and application was again made to erect a destructor, this time near to Clod Farm. The result of this inquiry is not yet known.

Sanitary Inspection.—Bakehouses—cellar and otherwise—have been visited, and those not complying with the Act have, after notice, been so improved as to entitle them to be registered. The erection of a public abattoir, in lieu of the existing slaughter-houses, is strongly advocated. Dairies and cowsheds are periodically inspected, as well as factories and workshops. Nearly all the privy middens have now become converted either to the pail or water-carriage system, the number of conversions during the year being as follows:—pails to waste-water closets 65, privies similarly converted 2, and privies to pails 7. The Inspector (Mr. Hoyle) served 339 notices for the abatement of nuisances, and nearly all were complied with. Two smoke observations were taken.

Haydock.—(Area in acres, 2,411; Estimated Population, 9,100).—*Medical Officer of Health*, T. E. HAYWARD, M.B. (Lond.); *Salary*, £60.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.	
Birth-rate.....	43·7 ...	38·9 ...	39·3	
Death-rate	14·3 ...	15·6 ...	17·1	
Zymotic death-rate.....	3·07 ...	3·65 ...	3·30	
Phthisis „	0·65 ...	1·14 ...	0·91	
Respiratory „	2·19 ...	3·20 ...	2·58	
Rate of deaths under 1 year to 1,000 births.....	97 ...	164 ...	162	

Dr. Hayward reports that the births were in the proportion of 43·7 per 1,000 of the population, as against 38·9 in the preceding year, and 39·3 the average of the 10 years 1893-1902. The death-rate, equal to 14·39, was exceptionally low, and compared favourably with the preceding year (15·6), and

the average of the 10 years 1893-1902 (17·1). The infant mortality was unusually favourable and much below the average. The zymotic mortality, although slightly less than the past decade, was high, due principally to the large number of deaths from diarrhœa (17). Under the Infectious Disease (Notification) Act, the following cases came under notice, viz., small-pox 2, diphtheria and membranous croup 11, erysipelas 7, scarlet fever 98, enteric fever 21, and chicken-pox—notifiable during the greater part of the year—46.

Hospital Accommodation.—The following cases were removed to the St. Helens borough sanatorium, viz., scarlet fever 3½ cases, of which 1 died, and 8 cases of typhoid fever, of which 2 died. In addition, 2 cases of small-pox which occurred in January were removed to the Old Whint Hospital and both recovered. It is satisfactory to observe that the Council have rescinded the resolution passed in the previous year by which payments were imposed in respect of hospital treatment.

Disinfection.—The St. Helens steam disinfector (Goddard, Massey, & Warner's) is used for bedding, clothing, &c., while infected rooms are fumigated with sulphur.

Water Supply obtained from the Liverpool Corporation reservoirs at Rivington.

Sewerage, Scavenging, &c.—A sewerage scheme is badly wanted; for many years attention has been called to this want, but the Authority so far has done nothing. Scavenging receives satisfactory attention.

Sanitary Inspection.—From the report of the Inspector (Mr. Dickinson) it appears that the cowsheds, milkshops slaughter-houses, and bakehouses, have been periodically inspected and found fairly clean. In several instances lime-washing was recommended, and this has been carried out, as well as improvements with regard to light and ventilation.

Attention has been paid to the cleansing of cesspools and water courses, and the following nuisances have been remedied, viz., 30 blocked drains, 36 gullies trapped, and 9 yards paving made good; in addition, 12 house roofs have been put right, and 32 privies and ashpits either rearranged or reconstructed.

Heaton Norris.—(Area in acres, 1,619; Estimated Population, 9,856.)—*Medical Officer of Health*, F. W. JORDAN, M.D., D.P.H; *Salary*, £50 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	15·4 ...	15·5 ...	16·3
Death-rate	10·0 ...	9·5 ...	11·1
Zymotic death-rate.....	0·71 ...	0·20 ...	0·88
Phthisis ,,	0·40 ...	0·71 ...	0·89
Respiratory ,,	1·42 ...	0·92 ...	1·99
Rate of deaths under 1 year to 1,000 births.....	157 ...	85 ...	118

The birth-rate was again exceptionally low, and also the death-rate, although it was slightly higher than in the previous year. The rate of infant deaths rose much above the average. The following cases of infectious disease were notified:—scarlet fever 59, enteric fever 3, erysipelas 5, diphtheria 5, small-pox 4; total 76. The zymotic deaths were attributed to scarlet fever 1, whooping cough 1, diphtheria 2, and diarrhœa (including enteritis) 4. Scarlet fever caused some trouble, as well as the cases of small-pox, 2 of which appeared during January in East Ward, and 2 in Heaton Mersey in October.

Hospital Accommodation.—Altogether 43 patients suffering from small-pox (4), diphtheria (3), and scarlet fever (36) were removed to the Salford Sanatorium, Ladywell.

Disinfection of clothing, bedding, &c., is carried out by the Salford Corporation at Ladywell, and infected rooms are subjected to formalin vapour and spray.

Water Supply is of good quality, obtained from the Corporations of Manchester and Stockport.

Sewerage, Scavenging, &c.—The sewage received satisfactory treatment, and scavenging is reported as well carried out.

Sanitary Inspection.—The dairies, cowsheds, bakehouses, and slaughter-houses have been regularly visited and found satisfactory. Drains of 27 houses tested with smoke revealed in 22 instances defects, which were remedied. The Inspector (Mr. Westbrook) served 75 preliminary notices and 4 under the Public Health Act, and secured the removal of 134 nuisances, including choked drains, defective drains, defective w.c.'s, soil pipes, sink waste pipes, overcrowded houses, offensive ditches, conversions of privies to w.c.'s, &c. A large number of visits were made to dwelling-houses and schools respecting infectious disease, and disinfection was carried out in 132 rooms at 65 houses—60 by means of formalin lamp, 31 with sulphur, and 41 sprayed with formalin.

Heysham.—(Area in acres, 1,835; Census Population, 3,381.)

—*Medical Officer of Health*, R. B. GASS, M.B., C.M.;
Salary, £20.

Per 1,000 of Population.	1903.	1902.	Mean of 4 years, 1899-1902.
Birth-rate..... ..	17·1 ...	28·6 ...	22·2
Death-rate	13·9 ...	17·4 ...	12·2
Zymotic death-rate.....	0·88 ...	1·47 ...	0·91
Phthisis ,,	nil. ...	1·18 ...	0·93
Respiratory ,,	2·07 ...	0·59 ...	0·90
Rate of deaths under 1 year to 1,000 births.....	120 ...	164 ...	112

The statistics presented by Dr. Gass are marked by reductions in the birth and death rates of 11·5 and 3·5 per 1,000 of the population respectively as compared with last year.

The zymotic and infant rates also declined considerably, the former being entirely due to the 3 deaths from small-pox. This disease gave rise to 9 attacks, and in each instance removal to the Lancaster hospital took place, where the 3 deaths took place. A place of quarantine for contacts was hastily provided, and there was a general supervision until after the incubative period. Scarlet fever contributed 14 cases, the first of which was imported from a Yorkshire town. The remaining notifications were typhoid fever 2, diphtheria and membranous croup 3, and erysipelas 3.

Hospital Accommodation.—A small hospital (6 beds) for the treatment of diseases other than small-pox was completed and opened during the year, and the Council have under consideration a site for a small-pox hospital. The cases receiving hospital isolation during the year numbered 26, viz., small-pox 9 (at Lancaster), scarlet fever 14, and diphtheria 3.

Disinfection.—Dr. Gass desires to impress upon his Council the necessity of steam disinfecting apparatus.

Water Supply, obtained from Lancaster, “maintains its general excellence of quality.”

Sewerage, Scavenging, &c.—Sewage is discharged into tidal currents. The sewerage system is constantly being extended. Scavenging, as performed by the Authority, is described as “fairly satisfactory.” “The provision of a refuse destructor is essential.”

Sanitary Inspection.—A few back-to-back houses are still in existence, and many huts and small houses are overcrowded. A special inspection of the underground bakehouses resulted in 3 being condemned as unfit for their purpose, but reconstruction has taken place and the premises have now been certified as satisfactory. Dairy, &c., regulations have not yet been adopted, and little or no attention is given to these places. Details of the Inspector's work is again wanting.

Heywood (Borough).—(Area in acres, 3,660; Estimated Population, 25,915.)—*Medical Officer of Health*, H. H. I. HITCHON, M.R.C.S.; *Salary*, £100.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	24·4 ...	24·1 ...	24·3
Death-rate	17·5 ...	17·4 ...	19·3
Zymotic death-rate.....	1·08 ...	1·27 ...	2·09
Phthisis ,,	1·81 ...	1·50 ...	1·94
Respiratory ,,	3·97 ...	3·58 ...	4·16
Rate of deaths under 1 year to 1,000 births.....	126 ...	124 ...	176

The birth-rate has varied very little for some years, and the average for the year under review is almost identical with the mean of the preceding decennial period. The death-rate is 1·8 below the 10 years' average, and the zymotic and infant rates are considerably reduced. The usual references are made as to effect on the latter rate of improper feeding and nursing of young children. Measles contributed only 1 death. Dr. Hitchon recommends that some arrangement as to notification of this disease be made with the school authorities. Whooping cough appeared in epidemic form during the closing months of the year; the disease was of a distinctly severe type and spread rapidly, chiefly through the agency of affected children attending school during the early stages of the disease. Fortunately only 4 deaths resulted. The mortality from diarrhoea (9) was again very low, owing, no doubt, to the cold and unusually wet weather which prevailed during the summer months. Small-pox gave rise to a much larger number of cases than usual, viz., 48, and 2 deaths resulted. The first case occurred on March 30th, and the disease was more or less present until October. Fortunately it was of a mild type. Four day schools were closed owing to outbreaks of the disease amongst the scholars. The town was placarded calling attention to the symptoms of small-pox, and

advising vaccination or re-vaccination. Although there has been a large number of cases of scarlet fever during the year (86) the disease never assumed an epidemic character. The majority of attacks were very mild—with only 2 deaths—and this led, no doubt, to many cases being overlooked by their parents, and the infected children, being allowed to mix up freely with other children and attend school, have been the means of spreading the infection to others. Diphtheria, prevalent January to March, occasioned 56 cases and 8 deaths, against 51 cases and 16 deaths in the previous year. Swabs were taken in many instances and sent for bacteriological examination, and the Corporation provided anti-diphtheritic serum free of cost. The remaining notifications were typhoid fever 7 (1 fatal), erysipelas 5, and puerperal fever 3. A leaflet was distributed to every house within the borough directing attention to the chief dangers of phthisis, how it is spread, and the measures that may be adopted to prevent infection.

Hospital Accommodation.—The small-pox hospital at Birtle was found insufficient, and the Corporation erected in the hospital grounds a temporary pavilion with 12 beds. Forty-seven cases of small-pox were removed. No provision is made for other infectious diseases.

Disinfection.—Steam apparatus at the hospital is available. The erection of a disinfecting apparatus at the destructor works would be a great advantage. The present method of taking all infected clothing, &c., to the small-pox hospital is not only costly, but open to great objection, especially if there be any cases of small-pox under treatment in the hospital. Rooms fumigated with sulphur numbered 223.

Water Supply obtained from the Heywood and Middleton Joint Board.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and land filtration. The effluent, at times, has not satisfied the Mersey and Irwell Joint Committee. An application is before the Local Government Board for a loan of

£21,500 for extension of the sewage works. The manholes give off foul exhalations. The practice of blowing off steam into the sewers has diminished considerably, but not altogether stopped. Scavenging, in the hands of the Corporation, is efficiently performed. A refuse destructor is provided.

Sanitary Inspection.—Of the 7 underground bakehouses in the town, 1 has been voluntarily closed, and at the remaining 6 alterations are being effected to make them comply with the Corporation requirements. Some of the slaughter-houses are “indifferent,” and a public abattoir is advocated. Owing to the presence of small-pox the lodging-houses received special attention. The gradual application of the dairy, &c., regulations has resulted in considerable improvements being effected at the farms. Factories and workshops were inspected with “good results.” Thirty-six canal boats examined revealed no serious infringement of the Act. During the year 117 privy middens and 46 pail closets were converted to the water-carriage system. The Inspector (Mr. Robinson) served 694 notices, attended to 726 nuisances, took 28 smoke observations, &c. In 4 instances legal proceedings were successfully instituted for smoke nuisances.

Hindley.—(Area in acres, 2,612; Estimated Population, 24,672.)—*Medical Officer of Health*, JAMES CHRONNELL, M.R.C.S. ; *Salary*, £100.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	35·7	...	35·8	...	39·5
Death-rate ..	18·8	...	17·7	...	21·0
Zymotic death-rate.....	2·47	...	2·06	...	3·94
Phthisis ,, 	0·68	...	0·66	...	0·72
Respiratory ,, 	3·32	...	3·42	...	4·81
Rate of deaths under 1 year					
to 1,000 births.....	174	...	181	...	186

The birth-rate, though practically unchanged, viz., 35·7,

compared with 35·8, still shows a diminishing tendency, Hindley Green being chiefly responsible for this; in the rest of the township there is an increase, most marked in South Ward. The rate is the lowest recorded during the last 10 years, and, excepting 1902, the same may be said of the general death-rate and zymotic rate. The infantile mortality is the most satisfactory recorded since 1896. Measles, prevalent all the year, assumed epidemic form in July and August in the North, West, and Central districts, and in South Ward in November and December. Altogether 27 deaths were attributed to this complaint. Two schools were closed. Whooping cough attacked a large number of children, but, fortunately, only 3 had a fatal termination. Diarrhœa was responsible for 19 deaths, all in children under five years of age. Small-pox gave rise to 3 cases, all in one house. Prompt removal to hospital took place; contacts were re-vaccinated, and the infected clothing destroyed. Scarlet fever, with 92 cases 7 deaths, was present throughout the year, the attacks being most numerous from April to September; South and East Wards suffered most. Dr. Chronnell points out how much the district suffers through lack of hospital accommodation for scarlet fever cases. There was an increase in the number of enteric fever cases—37, against 32 last year, but the deaths were only 3, against 12. In two instances the disease was probably contracted in collieries. Diphtheria and membranous croup (27 cases 2 deaths) gave comparatively little trouble as compared with previous years; in 1902 the cases numbered 95, and, in 1901, 244. Erysipelas contributed 17 cases, puerperal fever 9, and chicken-pox—notifiable for six months—22 cases.

Hospital Accommodation.—The district is still without accommodation for the treatment of ordinary infectious diseases. A small hospital at Sandy Lane is available for small-pox, and this district is one of the constituent authorities under the Wigan and District Small-pox Hospital Order. The 3 cases of small-pox named above were treated in the hospital.

Disinfection.—Steam appliances will shortly be provided ; 192 houses and 3 schools were fumigated with sulphur.

Water Supply, good, obtained from Liverpool.

Sewerage, Scavenging, &c.—Application has been made for borrowing powers (£28,000) for new sewers and additions to the outfall works. It is hoped that this expenditure will result in the removal of sewage matter from the much complained of Borsdane Brook. The Authority carry out scavenging.

Sanitary Inspection.—Three houses were condemned and closed, and all the underground bakehouses, with one exception, were also closed. Slaughter-houses are described as “clean,” and dairies and cowsheds as “satisfactory.” Dairy and cowshed regulations are not in force. Inspection of factories and workshops resulted in marked improvements. Dr. Chronnell says it is a pity that Local Authorities have no right of entry to a pit-bank. Very scanty conveniences are usually provided, and even none at some places. . . . Ankylostomiasis will sooner or later be introduced, and will be difficult to deal with. The Inspector (Mr. Southern) served 345 notices for the abatement of nuisances.

Horwich.—(Area in acres, 3,257 ; Estimated Population, 15,614.)—*Medical Officer of Health*, G. H. WHITAKER, L.R.C.P.E. ; *Salary*, £40.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	31·7 ...	31·6 ...	31·6
Death-rate ...	15·4 ...	13·9 ...	15·5
Zymotic death-rate.....	1·08 ...	1·82 ...	2·19
Phthisis ,,	0·96 ...	0·52 ...	0·59
Respiratory ,,	3·39 ...	2·67 ...	3·22
Rate of deaths under 1 year to 1,000 births.....	127 ...	96 ...	154

The birth-rate is reduced 2·9 per 1,000 as compared with

the mean of the 10 years 1893-1902, while the general death-rate—higher than the last 2 years—is practically the same. The zymotic and infant rates are fairly satisfactory. Measles and whooping cough each contributed 3 deaths. Small-pox gave rise to 2 cases, the infection being probably contracted in a neighbouring town. The temporary hospital at Red Moss was utilised for the treatment of the cases, and both recovered. Scarlet fever again had a widespread prevalence, 116 cases occurring with 6 deaths ; last year 157 cases were notified, and 5 had a fatal termination. Typhoid fever was accredited with 14 cases 4 death, diphtheria and membranous croup 27 cases 1 death, erysipelas 23 cases, and puerperal fever 1 case.

Hospital Accommodation.—A temporary hospital is provided at Red Moss ; 2 small-pox cases were treated there, and also 1 case of typhoid fever. Horwich is associated with many of the adjoining districts for the provision of a joint small-pox hospital, and the new joint hospital at Fall Birch for the treatment of ordinary infectious diseases is approaching completion.

Disinfection.—Steam apparatus is available for bedding, clothing, &c., and houses are fumigated either with sulphur or formalin.

Water Supply obtained from Blackrod, Wildersmoor, and Mount Cliff. The new reservoir works will soon be in progress.

Sewerage, Scavenging, &c.—An inquiry was held in September last by the Local Government Board into an application to borrow £12,000 for sprinkler filter beds and sludge presses and other necessary works. The scheme did not provide for the further treatment of the sprinkler filter effluent, and the sanction of the Board is withheld. Negotiations for the purchase of the requisite land are in progress. Scavenging is carried out by the Authority.

Sanitary Inspection.—The inspection of property in the different wards brought to light a large number of nuisances, consisting of filthy and dilapidated houses and outbuildings, insufficient closet accommodation, bad paving and draining, and overcrowding. These matters are now receiving due attention. Bakehouses and slaughter-houses were inspected and found satisfactory. One underground bakehouse was altered to meet the Council's requirements. Lodging-houses—two in number—are kept fairly clean, but they are in a very dilapidated condition, and the sanitary conveniences are not satisfactory. Dairies and cowsheds—not subject to regulations—are said to be in better condition than formerly. The inspection of factories and workshops brought to light many defects as to ventilation, overcrowding, &c. During the year 29 privies were converted into water closets, and 67 others were altered. The Inspector served 57 notices and secured the abatement of 241 nuisances. The chimneys in the district were kept under observation.

Hurst.—(Area in acres, 638; Census Population, 7,145.)—

Medical Officer of Health, T. COOKE, M.R.C.S. : Salary, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 7 years, 1896-1902.	
Birth-rate.....	24·9 ...	26·8 ...	29·1	
Death-rate	17·7 ...	17·6 ...	19·1	
Zymotic death-rate.....	2·65 ...	0·97 ...	1·96	
Phthisis ,, 	1·11 ...	1·81 ...	1·44	
Respiratory ,, 	2·37 ...	3·91 ...	3·99	
Rate of deaths under 1 year to 1,000 births.....	157 ...	156 ...	189	

The birth-rate is the lowest for seven years, and 4·2 per 1,000 of the population below the mean of the preceding decade, and the death-rate shows a reduction of 1·4. The zymotic rate is somewhat high, due principally to 12 deaths from measles. Whooping cough contributed 2 deaths, scarlet

fever 2 deaths, and diarrhoea 3 deaths. Thirty-four notifications were received, viz., small-pox 7, scarlet fever 19, typhoid fever 4, erysipelas 1, and continued fever 3. The most noticeable features of the year were the outbreak of small-pox—March to May—and the reduction in the cases of scarlet fever as compared with last year, when 87 cases occurred.

Hospital Accommodation.—The seven cases of small-pox were removed to the Ashton-under-Lyne hospital. “It is contemplated to form a conjoint Board, and an inquiry has been held regarding the erection of a hospital for the treatment of infectious cases.”

Disinfection.—No proper appliances, sulphur fumigation being relied upon.

Water Supply, good and pure, obtained from the joint waterworks.

Sewerage, Scavenging, &c.—The sewers are connected to the Ashton-under-Lyne system. The Authority carry out scavenging in a satisfactory manner, and the refuse is deposited on tips. Dr. Cooke draws attention to the very unsatisfactory condition of Broadoak Road, and urges his Authority to place it in a proper sanitary condition. Action is being taken to get all the streets in the district paved, flagged, and sewered.

Sanitary Inspection.—Bakehouses, slaughter-houses, and dairies and cowsheds are described as “good,” and factories and workshops “in excellent condition.” One underground bakehouse has been so altered as to comply with the requirements of the Act. A considerable number of wet and offensive privy middens were abolished, and the water-carriage system substituted. A considerable improvement in the sanitary condition of the district has thereby been effected. As in previous years, details of the Inspector’s work are wanting, but it is stated that all the nuisances discovered were abated.

Huyton-with-Roby.—(Area in acres, 3,053; Census Population, 4,661.)—*Medical Officer of Health*, EGERTON F. HALL, M.D.; *Salary*, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	25·9 ...	27·2 ...	28·5
Death-rate	12·4 ...	13·3 ...	13·3
Zymotic death-rate.....	0·85 ...	0·64 ...	1·18
Phthisis „	0·64 ...	0·64 ...	0·70
Respiratory „	1·71 ...	2·14 ...	2·41
Rate of deaths under 1 year to 1,000 births.....	82 ...	165 ...	122

The mortality statistics presented by Dr. Hall are again satisfactory, the infantile mortality being the lowest recorded. The birth-rate declined 1·3 per 1,000 as compared with 1902, and was 2·6 lower than the mean of the 10 years 1893-1902. Measles, whooping cough, diarrhœa, and diphtheria each contributed 1 death. Only 28 notifications were received, viz., scarlet fever 12, diphtheria 10, and typhoid fever and erysipelas 3 cases each. Some of the diphtheria cases were attributed to the emptying of ashpits and allowing the contents to stand for some time close to the doors of the houses, the soil consequently becoming polluted, and in the hot weather offensive.

Hospital Accommodation.—One bed is reserved at the Whiston sanatorium for the use of this district; this is at times insufficient. Six cases were removed, viz., scarlet fever 3, diphtheria 2, and typhoid fever 1.

Disinfection.—Steam apparatus at the hospital is available. Houses are fumigated with sulphur.

Water Supply obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is treated by irrigation. Scavenging, as performed by the Authority, gives satisfaction.

Sanitary Inspection.—Bakehouses and dairies and cowsheds are “satisfactory,” many improvements at the dairy farms having taken place. Factories and workshops comply with sanitary requirements. Some old privy middens were converted to the water-carriage system. Nine notices issued for nuisance abatement were complied with. The Inspector took 2 smoke observations.

Ince-in-Makerfield.—(Area in acres, 2,320; Estimated Population, 21,740.)—*Medical Officer of Health*, J. H. FLETCHER, M.R.C.S.; *Salary*, £60.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	41·5	...	41·2	...	40·8
Death-rate	21·8	...	22·7	...	22·1
Zymotic death-rate.....	4·87	...	2·83	...	3·51
Phthisis ,, 	0·50	...	0·55	...	0·54
Respiratory ,, 	5·15	...	8·03	...	4·98
Rate of deaths under 1 year to 1,000 births	180	...	190	...	205

The birth-rate, which is again very high, shows a fractional increase on last year's rate and on the mean of the preceding decade. The general death-rate, zymotic, respiratory, and infant rates are all high, and cannot be considered satisfactory. No less than 276 children under the age of five years died during the year. Measles contributed 36 deaths, and was very prevalent during the earlier months of the year, especially in North, Central, East, and West Wards. The infant departments of three schools were closed for a month. Diarrhoea was even more fatal, 38 deaths accruing therefrom, 29 being in infants under the age of 12 months. Many of the deaths were of children weak from birth, suffering further from malnutrition, due to unsuitable and irregular feeding. Whooping cough—the cause of 8 deaths—was not prevalent to a serious extent. Small-pox gave rise to 4 attacks—2 in April, 1 in

July, and 1 in December. All the cases were promptly removed to the hospital. Re-vaccination was urged on all contacts, and, with two or three exceptions, was carried out. Scarlet fever again had an extensive prevalence, 210 cases being notified with 8 deaths, against 178 cases 9 deaths in the previous year. An inspection of the schools revealed the fact that several children were attending whilst in the peeling stage. Very few cases received hospital isolation, because it was deemed advisable to reserve the hospital for possible cases of small-pox during the first six months of the year. The cases of typhoid fever, 22 in number, were fairly evenly distributed over the district; 5 deaths resulted. Special pails were supplied to the infected houses. Diphtheria—associated with membranous croup—was responsible for 55 cases 11 deaths, erysipelas contributed 20 cases, puerperal fever 3 cases, continued fever 5 cases, and chicken-pox—notifiable for 6 months—9 cases.

Hospital Accommodation.—The hospital contains 21 beds, with room for 6 more. The cases treated were small-pox 3, scarlet fever 21, typhoid fever 1, and chicken-pox 1. Ince is combined under an Order of the County Council with neighbouring authorities for the purpose of providing a joint small-pox hospital.

Disinfection.—Steam apparatus at the hospital is available. Houses are fumigated with sulphur.

Water Supply, good and constant, obtained from the Council's wells at Golborne, and partly from the Liverpool Corporation reservoirs at Rivington.

Sewerage, Scavenging, &c.—A considerable amount of trouble has been experienced in connection with the treatment and disposal of the sewage, and the Council are now considering a comprehensive scheme which, if carried out, will be of great benefit to the district. Mining subsidences have disarranged the sewers in many instances. Scavenging has not

always been satisfactory—the condition of some of the streets having been very bad during the wet weather. The privy midden system is in vogue—these have been emptied by the Council's own workmen with less complaints than formerly.

Sanitary Inspection.—Seven back-to-back houses were converted into through houses, and several others are being similarly dealt with. No cause for complaint arose in connection with the lodging-houses and bakehouses, and dairies and cowsheds are in fair condition. The workshops visited were clean, well ventilated, and free from nuisances. Sixty canal boats were examined, and no serious defects discovered. The Inspector (Mr. Corrigan) gives details of the 235 nuisances remedied.

Irlam.—(Area in acres, 4,620 ; Estimated Population, 4,700).

—*Medical Officer of Health*, EDWIN O. JAGO, M.R.C.S. ;
Salary, £20.

Per 1,000 of Population.	1903.		1902.		Mean of 8 years, 1895-1902.
Birth-rate.....	34·0	...	34·0	...	28·4
Death-rate	13·4	...	10·6	...	13·3
Zymotic death-rate.....	0·63	...	0·63	...	2·35
Phthisis „	0·42	...	0·42	...	0·63
Respiratory „	1·91	...	2·34	...	1·93
Rate of deaths under 1 year to 1,000 births.....	100	...	106	...	129

The birth-rate is exactly the same as last year, while the death-rate shows an increase of 2·8 per 1,000. The zymotic and phthisis rates also are identical with 1902, and the infant rate corresponds very closely. Diarrhœa was accredited with 2 deaths, but measles and whooping cough did not cause a single fatality. Scarlet fever gave rise to 18 cases, typhoid fever 2 cases, diphtheria 7 cases 1 death, and erysipelas 2 cases.

Hospital Accommodation said to be available at Salford, but, as in the previous year, not a single case was removed. Negotiations with one of the neighbouring Authorities for the treatment of cases of small-pox from this district having failed, the Council purchased and partially furnished 5 tramcars as a temporary hospital.

Disinfection.—Houses are fumigated after infectious disease by formaldehyde gas.

Water Supply from Manchester—good and abundant.

Sewerage, Scavenging, &c.—Sewage is dealt with by intermittent filtration through osier beds. The scavenging, which is undertaken by contract, is well performed.

Sanitary Inspection.—Periodical inspections are made of the bakehouses, slaughter-houses, and dairies and cowsheds; on the whole these places are well kept. The factories and workshops in the district fulfil the requirements of the Act in regard to cleanliness, air space, ventilation, and general sanitation. The Inspector (Mr. Kay) served 14 legal and gave many verbal notices for the abatement of nuisances. "Frequent" smoke observations are taken.

Kearsley.—(Area in acres, 1,005; Estimated Population, 9,400.)—*Medical Officer of Health*, J. C. EAMES, M.D.; *Salary*, £40.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	32·0 ...	31·2 ...	30·7
Death-rate	19·1 ...	16·2 ...	17·2
Zymotic death-rate	3·19 ...	1·70 ...	2·50
Phthisis ,, 	1·38 ...	0·74 ...	1·10
Respiratory ,, 	2·76 ...	3·29 ...	3·18
Rate of deaths under 1 year to 1,000 births.....	192 ...	136 ...	178

The birth and death rates are both higher than for some

years past, and the zymotic and infant rates—both unsatisfactory—are above the average. Measles, prominent at the end of 1902, continued to give rise to some anxiety, and three schools were closed for a fortnight. Fortunately, only 2 deaths resulted from this disease during the year under report. Diarrhœa contributed 15 deaths, alone equal to a death-rate of 1·6 per 1,000 of the population. Recently a district nurse has been appointed, whose duty it will be to call at every house shortly after the birth of a child, and give instructions as to the feeding and management of the infant. A severe case of small-pox broke out in June, but, fortunately, there was no further spread. Scarlet fever, of a mild nature, gave rise to 55 attacks. The cases were pretty equally distributed throughout the year. The mildness of the attacks made it hard to stamp out, as in many instances the disease was not discovered till the desquamatory stage was reached. Three deaths took place. Typhoid fever caused 21 cases 4 deaths, diphtheria 22 cases 6 deaths, and erysipelas 6 cases.

Hospital Accommodation.—Twenty-six cases were removed to the Ladywell Sanatorium, belonging to the Salford Corporation, viz., small-pox 1, scarlet fever 18, typhoid fever 6, and diphtheria 1.

Disinfection.—Rooms fumigated with sulphur numbered 140. No proper disinfecting appliances are provided, but in certain cases the bedding was taken to the hospital steam disinfectors.

Water Supply good, obtained from Bolton.

Sewerage, Scavenging, &c.—Sewage undergoes treatment in septic tanks. On one occasion the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent. Scavenging is performed under the supervision of the Authority.

Sanitary Inspection.—Two houses were condemned as

unfit for human habitation, and one was demolished. A special report was also made regarding two insanitary areas. The usual visits were made to the bakehouses, slaughter-houses, and dairies and cowsheds. Many of the latter have been greatly improved. At two of the factories the sanitary arrangements were completely reorganised and brought up to date. The Inspector (Mr. Walsh) reports on 798 nuisances which came under his observation. The smoke nuisances received attention in a few instances.

Kirkham.—(Area in acres, 857 ; Census Population, 3,693.)
Medical Officer of Health, W. W. SHAW, M.R.C.S. ; *Salary*, £30.

Per 1,000 of Population,	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	31·9 ...	30·8 ...	29·7
Death-rate	17·8 ...	18·1 ...	18·3
Zymotic death-rate	0·54 ...	2·70 ...	1·72
Phthisis „	1·08 ...	1·08 ...	1·85
Respiratory „	3·24 ...	2·70 ...	3·08
Rate of deaths under 1 year to 1,000 births.....	76 ...	166 ...	157

The chief feature of the mortality statistics for the year under review is the great reduction as compared with the last year in the infantile mortality. The rate (76 per 1,000 births) is the lowest ever recorded. The zymotic rate was entirely due to 1 death from diarrhœa, and 1 from diphtheria. Only 5 notifications were received, 1 each from the following diseases:—small-pox, scarlet fever, typhoid fever, diphtheria, and erysipelas.

Hospital Accommodation available for ordinary infectious diseases at Moss Side (Fylde Joint), and for small-pox at Elswick. One case was removed to the latter hospital.

Disinfection.—No apparatus. Two houses fumigated with sulphur.

Water Supply obtained from the Fylde Water Board.

Sewerage, Seavenging, &c.—Sewage, after passing through settling tanks, flows into the estuary of the River Ribble. The Authority's employees efficiently carry out scavenging.

Sanitary Inspection. — Bakehouses, slaughter-houses, dairies, cowsheds, factories, and workshops are all described as "satisfactory." Six privy middens were demolished, and the water-carriage system substituted. The Inspector (Mr. Fletcher) secured the abatement of 79 nuisances, after the service of 26 notices.

Lancaster (Borough).—(Area in acres, 3,506; Estimated Population, 42,570).—*Medical Officer of Health*, G. R. PARKER, L.R.C.P. (Lond.); *Salary*, £160 (including £20 for the Port).

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	24·9	...	26·7	...	27·4
Death-rate	11·0	...	14·1	...	16·6
Zymotic death-rate.....	0·70	...	1·58	...	2·12
Phthisis ,, 	0·89	...	1·17	...	1·33
Respiratory ,, 	1·62	...	2·02	...	3·08
Rate of deaths under 1 year to 1,000 births.....	109	...	141	...	161

The mortality statistics presented by Dr. Parker are very satisfactory and compare favourably with last year, and with the mean of the preceding decade. The general death-rate, zymotic, and infant rates are the lowest recorded. Referring to the reduction in the latter rate, Dr. Parker says "he does not think that it is the result of an improved management of the children, or a better understanding on the part of the parents of the sanitary laws which govern life, but to the same conditions which have produced a drop in the general death-rate of the community—an air purer because more rainwashed,

and an absence of a higher temperature, which is necessary for the vigorous growth of those bacilli, which, by their increase in the chief nutriment of hand-fed infants, are so fertile a source of illness and death." Premature birth was responsible for 23 deaths, many of which were due to the unhealthy conditions under which many mothers live, and to the overwork they are subjected to while in the pregnant state. A lady health visitor has been appointed whose duty it is to visit and instruct mothers in the general treatment and rearing of their children. She paid 556 visits between her appointment in October and the end of the year, and in a homely practical manner gave instructions on the feeding, clothing, and management of infants; the sanitary condition of the houses visited was also noted. The establishment of a municipal sterilised milk dépôt is recommended as likely to further reduce disease and death amongst young children. Below is given the death-rates, &c., for the various sub-districts from which it will be seen that Bulk and St. Anne's Wards had the highest death-rates. These wards have for three successive years produced the least satisfactory averages, and this is due "in large measure to the population density, and also to the careless habits of the people."

	Birth-rate.	Death-rate.	Zymotic Rate.	Infantile Mortality.
Bulk Ward.....	27·55	... 15·93	... 1·66	... 144
Castle Ward	27·50	... 11·93	... 0·51	... 94
John O'Gaunt Ward...	32·63	... 9·09	... 0·59	... 77
Park Ward.....	14·14	... 7·14	... 0·15	... 86
Queen's Ward	24·16	... 12·08	—	... 158
Scotforth Ward	21·10	... 10·21	... 0·50	... 79
Skerton Ward	30·86	... 10·93	... 0·59	... 106
St. Anne's Ward	22·66	... 14·97	... 2·49	... 165

Measles was much less prevalent than last year, only 1 death being recorded, against 28 in 1902. Diarrhœa had an appreciably lessened prevalence, due in all probability to the absence of the high temperatures usually met with from July

to September. Nine deaths were due to this disease, and 6 deaths were ascribed to whooping cough. Small-pox was the cause of 25 cases and 1 death; these cases represent six or more separate outbreaks. In four instances the complaint was introduced into the district by tramps, who, whilst in the vagrant ward of the workhouse, were discovered to be suffering from the disease. Another case was traced to the navvies at work on the Manchester pipe track. The source of infection in a group of three other cases could not be discovered. In the remaining 17 cases the infection was introduced into the town by the visits of one or more persons to the Heysham harbour works, where cases of small-pox at that time existed. The Medical Officer of Health states that "his experience with small-pox points to the necessity of re-vaccinating and controlling the movement of tramps and a certain class of navvies, who practically belong to the same category by never working more than a few days in any one place. Compulsory re-vaccination is urgently called for, administered in such a manner that these persons shall not escape the operation, as they are at present enabled to do by their migratory habits." At the request of the Local Government Board a special report was prepared giving details of all the cases, and such details are reproduced in the report under review. Immediately upon the receipt of notification the patients were removed to the small-pox isolation huts. Scarlet fever gave rise to 188 cases and 3 deaths, as compared with 173 cases and 2 deaths in 1902. The cases were distributed throughout the borough, but John O'Gaunt and Scotforth Wards suffered most. Sixty-six per cent. of the persons attacked were removed to hospital. Typhoid fever also had a slightly increased prevalence, 65 cases being notified with 9 deaths, against 61 cases 7 deaths in the preceding 12 months. Several of the cases occurred in a certain neighbourhood, where the sewer had given some trouble. Diphtheria, which has for the last four years been so prevalent, appears at last to be subsiding, as the following will show :—

Year.	Number of Cases.	Attack Rate per 1,000 of Population.	Number of Deaths.	Case Mortality percentage of Attacks.	Annual Diphtheritic Death-rate per 1,000 of Population.
1900 ...	118	2.98	37	31.35	.93
1901 ...	134	3.30	29	21.64	.71
1902 ...	95	2.28	16	16.84	.38
1903 ...	36	.84	2	5.55	.04

In order to reduce the possibility of small-pox being mistaken for chicken-pox the latter disease was made compulsorily notifiable, and 72 cases were reported. Erysipelas contributed 26 cases, and puerperal fever 2 cases.

Hospital Accommodation.—One hundred and eighty cases were removed to hospital, viz., small-pox 25, scarlet fever 125, and typhoid fever 30. The total cost of maintenance was £699 16s. 10½d., or 1s. 6.56d. per head per day. The completion of the new small-pox hospital will enable the enlargement of the sanatorium to be proceeded with.

Disinfection.—The steam apparatus at the sanatorium was used for the disinfection of 4,246 articles. Houses are disinfected by formaldehyde and nascent sulphurous acid gas, and an aqueous solution of perchloride of mercury.

Water Supply ample and of excellent quality. Samples were taken from some of the wells, and in one case the water was condemned.

Sewerage, Scavenging, &c.—Sewage is conveyed to the estuary of the Lune without any treatment. A new sewer is being constructed at Stodday. Complaints have again been made of offensive smells from manholes, due to insufficient ventilation of the sewers. Scavenging is carried out by the Authority's own workpeople, and is well and efficiently done. Waste matter is taken to the destructor.

Sanitary Inspection.—There is, in the older parts of the borough, a number of houses which, by reason of their age and

the manner in which they are huddled together, and the old fashioned ideas which then prevailed as to light and ventilation, cannot be regarded as satisfactory for human habitations. Bakehouses—64 in number—have been regularly inspected and found in good order. The Committee refused to licence three underground bakehouses. A public abattoir is provided, and, in addition, there are four private slaughter-houses. The municipal lodging-houses are fulfilling a long-felt want; the common lodging-houses, which are in private hands, although complying with the requirements of the law, are ill-adapted for their purpose. Supervision of dairies and cowsheds has been carefully carried out. The lighting, ventilation, and general arrangements at the majority of the shippens were found to be unsatisfactory, and in 13 cases alterations were effected. The administration of the Factory Act resulted in several defects being remedied. Six businesses, classed as offensive trades, were conducted with due regard to sanitation, and there was little to complain of. One hundred canal boats were inspected, and only 6 infringements of the Act noted. Meat inspection is thoroughly carried out—of 3,085 cattle killed at the abattoirs, 0·48 per cent. were found to be tubercular. Under the Sale of Food and Drugs Acts, 132 samples were taken, 5 of which were found to be offences. The Inspector (Mr. Smith) gives in brief the details of the work accomplished in his department, the total number of matters receiving attention being 3,236. Thirty-eight smoke observations were taken. Appended to the report are statistics as to rainfall, temperature, &c.

Port of Lancaster.—The population of the Port is estimated at 109, the same figure as obtained at the Census. During the year 1 death was registered, due to small-pox. No other case has been notified, or otherwise come to the knowledge of the officials. The total vessels entering the Port numbered 207, having a total tonnage of 39,532 tons, and total hands 1,497. The home trade vessels numbered 162, of a

total tonnage of 12,937 tons, and hands about 755; and the foreign trade vessels numbered 45—tonnage 26,595, and hands about 742. The case of small-pox occurred on a vessel coming from Spain. The patient was a negro, a native of Georgetown. He was removed to the small-pox huts and died six days afterwards. The disease was probably contracted at Barcelona. The water supply of the Port is the same as in recent years, *i.e.*, if obtained from the local supply the quality is far from good, but if obtained from the Port Sanitary Authority, excellent. The inspection of vessels has been carried out as usual, 161 visits having been made to the 207 vessels.

Lathom and Burscough.—(Area in acres, 13,660; Estimated Population, 7,348).—*Medical Officer of Health*, J. G. LAING, L.R.C.P.I.; *Salary*, £50.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	31.1 ...	29.4 ...	32.1
Death-rate	11.2 ...	17.4 ...	15.8
Zymotic death-rate.....	0.81 ...	1.80 ...	2.05
Phthisis „	1.63 ...	0.83 ...	1.00
Respiratory „	1.22 ...	3.33 ...	2.63
Rate of deaths under 1 year to 1,000 births.....	96 ...	150 ...	137

The statistics presented by Dr. Laing are marked by an increase in the birth-rate of 1.7 per 1,000 of the population as compared with last year, and a decrease of 6.2 in the death-rate. The latter rate is the lowest recorded for the district, and the same may be said of the zymotic and infant rates. Measles was prevalent about September, and necessitated school closure; fortunately only 1 death took place. Diarrhoea—the cause of 3 deaths—did not give rise to much trouble, the comparative immunity being, no doubt, due to the excess of rainfall during the summer months. There was a large increase in the number of scarlet fever cases as compared with

1902, viz., 122 cases 2 deaths, against 44 cases 3 deaths. Several schools were closed on account of the prevalence of this disease amongst the scholars. Typhoid fever contributed 12 cases, diphtheria 5 cases, and puerperal fever 1 case.

Hospital Accommodation is provided jointly with Ormskirk. In addition to the hospital—10 beds—for ordinary infectious diseases, a small-pox hospital—8 or 9 beds—is provided. Thirty-one cases of scarlet fever and 4 of typhoid fever were removed.

Disinfection.—A Thresh steam apparatus at the hospital is available. Houses are fumigated either with sulphur or formalin.

Water Supply of first rate quality and ample in amount, is obtained from the Bath Springs, Burscough. The mains have, during the year, been extended.

Sewerage, Scavenging, &c.—Sewage is treated in bacteria beds followed by land filtration. The outlying district of West-head has a separate purification plant, and the more scattered portions of the district drain into cesspools. Scavenging is performed in a satisfactory manner under contract. The refuse is used for agricultural purposes.

Sanitary Inspection.—House accommodation is, on the whole, fairly good, although often two families will join at one house, owing to the rents being high and the rate of wages low. Four houses, unfit for human habitation, were condemned. Bakehouses and slaughter-houses are clean and in good condition, and dairies and cowsheds are described as "fair on the whole." Factories were examined; at one, grave sanitary defects were discovered. Twenty-two canal boats underwent examination, and no serious infringements of the Act were observed. The Inspector (Mr. Darby) served 19 notices, and secured the abatement of 81 nuisances. One smoke observation was taken.

Lees.—(Area in acres, 203 ; Estimated Population, 3,660.)—
Medical Officer of Health, WM. STANFIELD, M.D. ; *Salary*,
 £20.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	30·8 ...	23·4 ...	27·3
Death-rate	24·0 ...	19·3 ...	19·0
Zymotic death-rate.....	3·82 ...	1·65 ...	1·47
Phthisis „	1·09 ...	1·38 ...	1·54
Respiratory „	3·82 ...	4·41 ...	3·53
Rate of deaths under 1 year to 1,000 births	247 ...	176 ...	181

The birth-rate is the highest recorded since 1895, and 3·5 per 1,000 above the mean of the 10 years 1893-1902. The death-rate, which exceeds the average for many years, is 5·0 per 1,000 above the past decade. The zymotic and infant rates are also very high, and far from satisfactory. Both are in a great measure due to whooping cough, which contributed 12 deaths. Measles and scarlet fever each gave rise to 1 death. Small-pox, 3 cases, was introduced from Oldham. Handbills of instruction were widely distributed, and re-vaccination offered. Scarlet fever was the cause of 7 cases, diphtheria 1 case, and membranous croup 1 case.

Hospital Accommodation.—The 3 cases of small-pox were removed to the Strinesdale hospital (Oldham).

Disinfection.—The Oldham steam apparatus was used for the small-pox infected clothing, and in ordinary infectious cases sulphur fumigation was relied upon.

Water Supply good, obtained from Oldham.

Sewerage, Scavenging, &c.—The sewage of this district is conveyed to the Oldham Corporation system. Scavenging, as carried out by contract, gives satisfaction.

Sanitary Inspection. — Bakehouses, slaughter-houses,

dairies, &c., were periodically inspected. Factories and workshops also came under observation, and 10 notices were served to enforce cleansing and limewashing. The Inspector (Mr. Liversage) secured the abatement of 20 nuisances, chiefly blocked drains. Form C has again not been supplied.

Leigh (Borough.)—Area in acres, 6,358; Estimated Population, 42,000).—*Medical Officer of Health*, J. KING, M.B.; *Salary*, £120.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	34·0	...	34·6	...	36·1
Death-rate	19·7	...	16·1	...	20·3
Zymotic death-rate.....	4·83	...	1·58	...	3·92
Phthisis ,,	0·95	...	1·14	...	1·23
Respiratory ,,	4·52	...	3·95	...	4·45
Rate of deaths under 1 year to 1,000 births.....	191	...	133	...	184

The mortality statistics do not compare favourably with 1902, and cannot be considered satisfactory; the general death-rate increased 3·6 per 1,000 of the population, the zymotic rate 3·25, and the rate of deaths under 1 year to 1,000 births was 191, against 133. The lowest death-rate (16·9) occurred in St. Thomas's Ward, and the highest (23·7) in Etherstone Ward. Measles was epidemic throughout the year, and was the cause of 107 deaths, 101 of these being amongst children under 5 years of age. During the previous year only 6 deaths were due to this cause. The chief centre of infection in the early stages of the epidemic was Christ Church day school, and on this account the infant department was closed. Shortly afterwards several other schools had also to be closed. In addition to school closure, house-to-house visitation, and the distribution of handbills containing advice, as to precautionary measures to be taken, were systematically carried out. Indiscriminate visiting, and wilful exposure to the infection was

common, due, in many instances, to the erroneous idea that all children must have measles. Whooping cough—the cause of 33 deaths—was concurrently epidemic. Diarrhœa contributed 30 deaths, as against 29 for the preceding year. Five cases of small-pox were notified. As in last year the disease was introduced by a tramp. The second case was a travelling musician; the third had been in contact with number two; and in the remaining 2 attacks the source of infection could not be traced. In each case prompt removal to hospital took place. Scarlet fever had an alarming prevalence, no less than 414 cases being notified with 17 deaths, against 198 cases and 10 deaths in the previous year. The disease was present throughout the year, but it assumed epidemic proportions during the last quarter, when 62 cases were notified in November, and 94 in December. The disease, on the whole, was of a mild type, and on this account many cases were unrecognised by parents, and not suspected as being cases of fever until their attention was drawn to the fact that the skin was peeling. Owing to the continued spread school closure was resorted to. Want of accommodation at the sanatorium necessitated 224 cases being treated at home, where, in numerous instances, there was little or no accommodation for isolating the patients. Typhoid fever was accredited with 46 cases 12 deaths, against 49 cases 13 deaths in 1902, and diphtheria and membranous croup 9 cases 4 deaths, against 13 cases 5 deaths. Anti-diphtheritic serum is now provided at the expense of the Corporation for the benefit of the very poor suffering from diphtheria, and is supplied free of cost to the medical practitioners in attendance on them. The remaining notifications were erysipelas 25, puerperal fever 4, continued fever 2, and phthisis—voluntarily notifiable—11.

Hospital Accommodation is provided at the joint sanatorium at Astley. Provision is also made for small-pox. The cases removed numbered 221, viz., small-pox 5, scarlet fever 190, and typhoid fever 26.

Disinfection.—Three hundred houses and 13 schools were fumigated.

Water Supply obtained from Liverpool, good in quality, but in quantity somewhat inadequate. Additional mains are now being laid.

Sewerage, Scavenging, &c.—Sewage is treated at the Leigh and Atherton joint sewerage works. On one occasion the Mersey and Irwell Joint Committee were not satisfied with the character of the effluent. The removal of nightsoil is still carried on by contract, and the refuse disposed of to farmers, or tipped on the sewage farm. The method and time of removal, still gives rise to serious nuisances, but, with the general adoption of the water-carriage system, the nuisance arising therefrom will be considerably modified.

Sanitary Inspection.—During the year 13 houses were closed as unfit for habitation, and 5 others condemned. Bake-houses—periodically inspected—were, on the whole, found to be in satisfactory condition. Three underground bakehouses were closed. The lodging-houses, on account of the small-pox scare, have been under the daily supervision of the officials, and, on the whole, are conducted in a satisfactory manner. Dairies and cowsheds, and factories and workshops, came under constant observation, and in several instances, notices were served requiring sanitary improvements. Forty seizures of unsound food took place, the amount condemned being beef 11,745 lbs., fish 750 lbs., and tinned foods 40 lbs. The Inspector (Mr. Jackson) gives details of a large amount of work accomplished, including nuisances reported 770, nuisances abated 610, notices and letters issued 1,736, canal boats inspected 119, defective house drains, &c., 459, defective privies, water closets, &c., 396, water closets substituted for privies 142, repairs to houses 952, smoke observation, 60, &c.

Levenshulme.—(Area in acres, 606; Estimated Population, 13,500.)—*Medical Officer of Health*, H. F. EDLIN, M.R.C.S.; *Salary*, £60 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	30·0 ...	30·5 ...	26·4
Death-rate	11·6 ...	11·2 ...	12·3
Zymotic death-rate.....	0·74 ...	1·20 ...	1·63
Phthisis „	0·44 ...	0·96 ...	1·24
Respiratory „	2·44 ...	1·28 ...	2·00
Rate of deaths under 1 year to 1,000 births.....	98 ...	91 ...	129

The birth-rate is 3·6 per 1,000 above the average of the preceding decennial period; for three years this increase has been maintained, and is probably due to the influx of young adults, which also to some extent accounts for the favourable death-rates. North-West Ward has the highest death-rate and the lowest birth-rate; North-East Ward the lowest death-rate and the highest birth-rate. The district was comparatively free from measles, only a few cases being reported at the middle of the year. Two deaths took place. Whooping cough and diarrhœa were also only slightly in evidence, the deaths being 4 and 2 respectively. Four cases of small-pox occurred in four houses; 2 were notified in March and 2 in May. The first case was concealed during the illness, and only reported, after apparent recovery, by a neighbour. Steps were at once taken to secure isolation and disinfection, and precautions taken to prevent the further spread of the disease by vaccination and isolation of contacts. After complete recovery a prosecution was instituted for failing to notify and for exposure whilst in an infected condition, and penalties of 20s. and costs in the one case, and costs in the other were inflicted. The origin of the other 3 cases could not be traced. The notification of chicken-pox was in force as a precaution, and was continued until the end of September; 67 cases were reported.

Scarlet fever contributed 26 cases; the attacks were mild, and only 1 was fatal. Typhoid fever gave rise to 8 cases 1 death, and diphtheria 4 cases; in all these the diagnosis was confirmed by bacteriological examinations. Some of the typhoid fever cases were due to contamination of milk from a certain farm by a polluted water supply. The sale of milk was stopped until a pure water was laid on to the farm. The remaining notifications were erysipelas 7, puerperal fever 2, and phthisis (voluntarily notifiable) 14.

Hospital Accommodation is available at the Withington sanatorium at Baguley. Ten beds are reserved for this district, and, in addition, the Council retain two beds at the Hyde Corporation hospital. The cases removed were small-pox 3, scarlet fever 13, and diphtheria 1.

Disinfection.—New apparatus will shortly be available. For the disinfection of houses formaldehyde has been substituted for sulphur.

Water Supply good; obtained from the Manchester Corporation waterworks.

Sewerage, Scavenging, &c.—Sewage is conveyed to the Withington sewers. The sewers have been regularly and systematically flushed during the year, and a reduction effected in the number of complaints. Scavenging, as performed by the Authority, is satisfactory, but some complaints were made as to the nuisance arising from refuse tips. A destructor has now been erected which will obviate such complaints.

Sanitary Inspection.—Three houses were condemned and closed. Bakehouses—22 in number—on the whole are satisfactory. One was closed, and as the 3 underground bakehouses do not comply with the requirements they will have to be discontinued. Slaughter-houses are well kept, and dairies and cowsheds described as “fairly good.” Dairy regulations have recently been adopted. Ninety-seven privy middens

were converted to w.c.'s, 6 abolished, and 5 altered to the pail system. The Inspector (Mr. Lord) reports on 393 nuisances, which were abated, 151 subsequent to notice being served, and 4 after the institution of legal proceedings. A few smoke observations were taken.

Leyland.—(Area in acres, 3,725; Estimated Population, 7,000.)—*Medical Officer of Health*, E. BERRY, L.F.P.S.G.; Salary, £30.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	25·1	...	24·1	...	28·3
Death-rate	14·2	...	15·7	...	18·0
Zymotic death-rate.....	0·28	...	0·43	...	1·67
Phthisis „	1·28	...	1·01	...	1·49
Respiratory „	2·14	...	3·78	...	3·68
Rate of deaths under 1 year to 1,000 births.....	119	...	198	...	177

The general death-rate, zymotic rate, and infantile mortality all show satisfactory reductions as compared with last year, and with the mean of the 10 years 1893-1902. Only 2 deaths were ascribed to the seven principal zymotics, viz., diarrhoea 1, and typhoid fever 1. Twenty notifications were received—scarlet fever 13, typhoid fever and erysipelas 3 each, and diphtheria 1.

Hospital Accommodation.—Five cases of scarlet fever and 1 case of typhoid fever were removed to the Chorley, &c., joint hospital at Heath Charnock.

Disinfection.—No apparatus.

Water Supply, obtained from Clayton-le-Woods, good but somewhat hard. Improvements are being made regarding means of softening.

Sewerage, Scavenging, &c.—The sewage works have been

extended, the mode of treatment being "continuous settlement" and irrigation. Scavenging is carried out by the Authority. "Some of the streets are still a disgrace to the township."

Sanitary Inspection.—Bakehouses and slaughter-houses are inspected at frequent intervals. Dairies and cowsheds, for some unaccountable reason, do not undergo inspection, and they are not subject to regulations. The Inspector served 26 notices for nuisance abatement, and all received attention.

Litherland.—(Area in acres, 857; Estimated Population, 12,735.)—*Medical Officer of Health*, BENJAMIN SUMNER, M.D.; *Salary*, £35 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	36·8 ...	33·6 ...	35·2
Death-rate	12·8 ...	15·7 ...	15·1
Zymotic death-rate	0·47 ...	2·03 ...	2·86
Phthisis ,,	0·94 ...	0·73 ...	0·89
Respiratory ,,	2·90 ...	3·42 ...	2·92
Rate of deaths under 1 year to 1,000 births.....	113 ...	150 ...	171

An increase in the birth-rate of 3·2 per 1,000 as compared with last year is accompanied by a decrease in the death-rate of 2·9. The zymotic rate declined 1·56, and the infantile mortality was considerably reduced. The two latter averages are the lowest recorded for 10 years. Whooping cough and diarrhoea each contributed 2 deaths. Small-pox was the cause of 10 cases; these occurred in 7 houses, and there were 7 distinct outbreaks. In each instance prompt removal to hospital took place. Scarlet fever, of a mild type, had a wide-spread prevalence, 131 cases occurring, but only 1 death resulted. Last year 69 cases were notified, with 4 deaths. Typhoid fever accounted for 7 cases 1 death, diphtheria 8 cases, erysipelas 9 cases, and puerperal fever 1 case.

Hospital Accommodation.—The Bootle Corporation hospital at Linaere is available, and 45 cases were removed., viz., small-pox 10, scarlet fever 31, and diphtheria 4.

Disinfection.—The necessity for an up-to-date disinfectors becomes more apparent each year. One hundred and thirty-one rooms were fumigated, two after the occurrence of phthisis.

Water Supply obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage flows by gravitation into the River Mersey. Scavenging, performed partly by the Authority and partly by contract, gives satisfaction.

Sanitary Inspection.—Three underground bakehouses received attention as to structural alterations. Dairies and cowsheds are described as “good.” Factories and workshops were found to be clean and efficiently ventilated; in a few instances additional w.c. accommodation was provided. Thirty privy middens were abolished, and the water-carriage system substituted. Thirty canal boats were examined. The Inspector (Mr. Carter) served 215 notices; as a result 200 nuisances were abated. “Continuous” smoke observations were taken, and in one instance legal proceedings followed.

Littleborough.—(Area in acres, 7,853; Estimated Population, 11,338).—*Medical Officer of Health*, G. K. PITCAIRN, M.B.; *Salary*, £50.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	22·1 ...	22·4 ...	22·5
Death-rate	15·0 ...	14·3 ...	15·1
Zymotic death-rate... ..	0·61 ...	0·97 ...	1·01
Phthisis „	0·79 ...	1·59 ...	1·28
Respiratory „	2·73 ...	2·13 ...	3·12
Rate of deaths under 1 year to 1,000 births.....	159 ...	122 ...	132

The birth and death rates for the year under review are

almost identical with the averages of the preceding decennial period. The zymotic rate is the lowest recorded during the 10 years, whilst the infant rate is the highest. Whooping cough was somewhat prevalent but only gave rise to 2 deaths. Diarrhœa was the cause of 1 death. Small-pox was responsible for 1 attack—in April. The infection was contracted in Bacup. Scarlet fever was accredited with 73 cases, against 28 in the previous year; the disease was of a very mild type, and this no doubt contributed in no small degree to the spread of the infection. Several cases escaped notice altogether, and the children affected mixed with others. Diphtheria was the cause of 8 cases 4 deaths. Three of the cases occurred in one house, attributable to sewer gas. Typhoid fever contributed 1 case, and erysipelas 5 cases.

Hospital Accommodation.—I have again to report that little progress has been made by the Littleborough, Milnrow, and Wardle Joint Hospital Board towards providing the accommodation for which they were constituted in Feb., 1900.

Disinfection is carried out by dry heat.

Water Supply obtained chiefly from the Rochdale Corporation. Complaints are, at times, made as to the “muddy” condition of the water. There are a few private supplies—mainly good.

Sewerage, Scavenging, &c.—Sewage undergoes treatment by precipitation and filtration. The Authority carry out scavenging in a satisfactory manner.

Sanitary Inspection.—Bakehouses and slaughter-houses are described as “good.” Dairies and cowsheds are inspected “twice a year,” but they are not subject to regulations. Forty-five canal boats were examined, and, with one exception, complied with the requirements of the Act. The Inspector served 161 notices for nuisance abatement, and all were complied with. Forty-one smoke observations were taken.

Little Crosby.—(Area in acres, 1,903; Estimated Population, 578.)—*Medical Officer of Health*, EDWARD BUXTON, M.D.; *Salary*, £10 10s. (no claim).

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	22·4	...	20·9	...	16·5
Death-rate	12·1	...	6·9	...	0·89
Zymotic death-rate.....	nil.	...	nil.	...	0·31
Phthisis „	nil.	...	nil.	...	0·64
Respiratory „	nil.	...	nil.	...	1·66
Rate of deaths under 1 year to 1,000 births.....	76	..	nil.	...	92

Thirteen births and 7 deaths were registered in this district during the year. For nine consecutive years there has not been a single death from the principal zymotic diseases. No case of notifiable infectious disease was reported, and, as far as could be ascertained, there were very few cases of sickness of any kind.

Hospital Accommodation.—Nil.

Disinfection is carried out, by arrangement, by the Great Crosby sanitary officials.

Water Supply good; obtained from Liverpool.

Sewerage, Scavenging, &c.—Sewage flows into settling tanks, the sludge being used for agricultural purposes. Additional sewer ventilating shafts have been erected during the year. The Authority carry out scavenging.

Sanitary Inspection.—There are no bakehouses, slaughter-houses, or lodging-houses in the district. Dairies and cow-sheds, described as fairly good, are constantly being improved. It was not necessary to issue any statutory notice for nuisance abatement.

Little Hulton.—(Area in acres, 1,699; Census Population, 7,294.)—*Medical Officer of Health*, J. H. MARSH, L.R.C.P.; *Salary*, £30.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	27·2	...	33·3	...	32·5
Death-rate	12·8	...	13·4	...	16·8
Zymotic death-rate.....	1·64	...	1·64	...	2·34
Phthisis ,,	0·41	...	1·23	...	0·85
Respiratory ,,	2·87	...	3·42	...	4·54
Rate of deaths under 1 year to 1,000 births.....	100	...	102	...	156

A birth-rate 6·1 per 1,000 less than last year is accompanied by a death-rate 0·6 below the rate of 1902, and 4·0 below the mean of the 10 years 1893-1902. Both these rates are the lowest recorded for the district, and the same may be said of the infantile mortality. The zymotic rate is identical with last year's average. Measles caused 2 deaths, but there was no marked outbreak of this disease. Diarrhœa contributed 8 deaths, and typhoid fever and diphtheria 1 death each. The number of cases of infectious disease notified, viz., 128, was the largest number since the adoption of the Act, almost double any previous year's, the chief increase being due to scarlet fever. One case of small-pox occurred in May—a young man, who contracted the disease whilst on a visit to Manchester. He was at once isolated in hospital, the other members of the family were quarantined for 12 days, and the usual precautionary measures adopted. Scarlet fever—84 cases—was most prevalent in the first and last quarters of the year. An inspection of the children attending one of the schools resulted in the finding of a number who were evidently recovering from mild attacks of the fever, all capable of infecting others. This school was closed. Typhoid fever gave rise to 8 cases, diphtheria 26 cases, erysipelas 6 cases, and puerperal fever 2 cases. Anti-diphtheritic serum is supplied free of cost. The

voluntary notification of phthisis has been adopted, but only 1 case was reported. Dr. Marsh recommends the provision of sanatoria by the County Council.

Hospital Accommodation.—Forty-five cases were removed to the joint hospital at Farnworth, viz., small-pox 1, scarlet fever 38, typhoid fever 3, and diphtheria 3.

Disinfection.—Steam apparatus at the hospital available.

Water Supply satisfactory, obtained from Bolton.

Sewerage, Scavenging, &c.—Sewage is treated in septic tanks and on bacteria beds. Scavenging, as carried out by contract, is only “fairly” satisfactory.

Sanitary Inspection.—Bakehouses, slaughter-houses, and dairies and cowsheds have been inspected, and the general cleanliness and limewashing were, on the whole, satisfactory. Some of the shippens are deficient in ventilation; regulations are not in force. Thirteen privies were converted into water closets during the year, and 50 others altered in accordance with the bye-laws. The Inspector (Mr. Davies) secured the abatement of 387 nuisances, served 101 notices, took 3 smoke observations, &c.

Little Lever.—(Area in acres, 808; Estimated Population, 5,230.)—*Medical Officer of Health*, J. S. PICKFORD, M.R.C.S.; *Salary*, £20.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	25·2 ...	27·5 ...	29·2
Death-rate	19·3 ...	12·2 ...	17·7
Zymotic death-rate.....	3·82 ...	2·13 ...	3·05
Phthisis ,,	1·14 ...	0·38 ...	1·02
Respiratory ,,	5·92 ...	2·33 ...	3·86
Rate of deaths under 1 year to 1,000 births.....	234 ...	112 ...	173

The chief features of the statistics presented by Dr.

Pickford are an increase in the general death-rate, as compared with 1902, of 7.1 per 1,000 of the population, in the zymotic rate a rise of 1.69, and an infantile mortality more than double last year's average. The latter rate is excessive, and calls for investigation. Measles—epidemic in April and May—caused 8 deaths, whooping cough 3 deaths, and diarrhœa 7 deaths. The prevalence of the first-mentioned disease necessitated closure of all the schools. One case of small-pox occurred in May; prompt removal to hospital took place. Scarlet fever, mainly of a mild type, contributed 47 cases 2 deaths, and 13 cases were ascribed to diphtheria. A noteworthy feature was the entire absence of typhoid fever. Four cases of phthisis were voluntarily notified.

Hospital Accommodation is provided at the joint hospital at Farnworth. Only 3 cases were removed—small-pox 1, and scarlet fever 2.

Disinfection.—Steam apparatus at hospital available.

Water Supply, obtained from the Bury Joint Board, is more satisfactory than formerly.

Sewerage, Scavenging, &c.—Sewage is treated by chemical precipitation and filtration. The Authority undertake the scavenging.

Sanitary Inspection.—No serious defects were found at the bakehouses, slaughter-houses, or dairies and cowsheds. At some of the factories and workshops there is an insufficiency of closet accommodation. Thirteen canal boats underwent inspection. During the year several privies have been converted into waste-water closets, and many others—wet and leaking—have been improved. Notices served amounted to 22, and nuisances abated 16.

Little Woolton.—(Area in acres, 1,389; Census Population, 1,091.)—*Medical Officer of Health*, C. STUART PETHICK, M.B.; *Salary*, £25.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	16·4	...	22·9	...	20·2
Death-rate	7·3	...	9·1	...	9·8
Zymotic death-rate.....	nil	...	nil	...	0·70
Phthisis „	nil	...	1·83	...	1·50
Respiratory „	0·91	...	0·91	...	0·97
Rate of deaths under 1 year to 1,000 births	111	...	160	...	135

The birth-rate declined 6·5 per 1,000 as compared with last year, and there was a reduction in the death-rate of 1·8. For three consecutive years the zymotic rate has been nil. Measles did not give rise to a single fatality, but, owing to an outbreak, one of the schools was closed. Scarlet fever contributed 3 cases, two of the patients being in the “peeling” stage when they came to reside in the district.

Hospital Accommodation.—An arrangement has been entered into with the Whiston Council to retain one bed at their sanatorium for the use of this district.

Disinfection.—Fraser's dry heat apparatus available.

Water Supply obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—The sewage farm has been conducted satisfactorily, and scavenging received due attention from the Authority's workmen.

Sanitary Inspection.—New dairy regulations are about to be put into operation. The cowsheds and the slaughter-house give satisfaction. Only 2 notices were required for nuisance abatement.

Longridge.—(Area in acres, 3,285; Census Population, 4,304).
—*Medical Officer of Health*, GEORGE JUKES, L.R.C.P.Ed.;
Salary, £20.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	25·7	...	29·0	...	30·1
Death-rate	13·4	...	16·4	...	19·4
Zymotic death-rate.....	0·23	...	0·69	...	2·08
Phthisis ,, 	2·09	...	1·62	...	1·67
Respiratory ,, 	1·16	...	2·32	...	3·99
Rate of deaths under 1 year to 1,000 births.....	63	...	128	...	167

Dr. Jukes reports that the annual rates as regards deaths from all causes, from zymotic diseases, and the infantile mortality are exceptionally favourable, and these rates have not fallen to so low a figure during the preceding 10 years. The birth-rate is also the lowest recorded. Only 1 death was ascribed to zymotic disease, viz., whooping cough. Small-pox was the cause of 1 case at Dilworth; prompt removal to hospital took place. Scarlet fever of a very mild type contributed 14 cases, typhoid fever 2 cases, and erysipelas 1 case.

Hospital Accommodation.—The small-pox patient was removed to the joint hospital at Elswick. The joint hospital at Fulwood (for ordinary infectious diseases) is nearing completion.

Disinfection.—No apparatus. Eighteen houses were fumigated with sulphur.

Water Supply, obtained from the Preston Corporation, good and plentiful, but at times it is somewhat turbid.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and in polarite filters. Scavenging, in the hands of the Authority, is well performed.

Sanitary Inspection.—Bakehouses (2) and slaughter-houses (2) are described as satisfactory, and dairies and cowsheds as “fair.” The Inspector (Mr. Mitchell) served 70 notices for nuisance abatement, and all were complied with.

Lytham—(Area in acres, 2,464; Estimated Population, 7,750.)—*Medical Officer of Health*, J. C. FISHER, M.A., M.B.; *Salary*, £100.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	18·0	...	19·3	...	19·1
Death-rate	13·4	...	16·6	...	13·7
Zymotic death-rate.....	1·03	...	0·93	...	0·79
Phthisis „	0·90	...	1·20	...	1·22
Respiratory „	2·06	...	1·60	...	2·03
Rate of deaths under 1 year to 1,000 births.....	142	...	179	...	145

The birth-rate, 1·3 per 1,000 below last year's average, has for some time shown a gradual and consistent decline. The rate varied from 24·7 in North-East Ward, 16·0 in South-West Ward, 14·8 in South-East Ward, to 14·5 in North-West Ward. The proportion of deaths of infants under one year to 1,000 births in these wards was 125, 250, 95, and 43 respectively. The general death-rate—which includes the deaths of 8 visitors—shows an improvement on the last two years, and is fractionally below the average of the preceding decade. After a long spell of comparative immunity, measles appeared in the autumn, and “at once made up for lost time.” A great number of children were affected, and it was found necessary to close three schools. The result of the closure was very satisfactory, the epidemic abating almost at once. Six deaths were due to this disease, and whooping cough and typhoid fever caused 1 death each. Small-pox gave rise to 2 cases; both occurred in the spring, and were imported into the district from places where the disease was then prevalent.

They were promptly removed to hospital, and every possible precaution was taken against a further spread. There was a marked diminution in the number of scarlet fever notifications as compared with last year, viz., 24 against 47. The character of the disease was very mild. Typhoid fever contributed 16 cases, diphtheria 1 case, and erysipelas 3 cases.

Hospital Accommodation is provided at Moss Side (Fylde) for ordinary infectious diseases, and at Elswick for small-pox. Twenty-seven cases were removed, viz., small-pox 2, scarlet fever 14, and typhoid fever 11.

Disinfection.—The present apparatus is an old-fashioned hot dry air oven, which is not altogether reliable in its work, but it is proposed to erect at an early date a Washington Lyon's steam disinfecter. Rooms fumigated numbered 99, and 795 articles passed through the disinfecting appliances.

Water Supply obtained from the Fylde Water Board. The water occasionally contains some peaty sediment which detracts from its appearance.

Sewerage, Scavenging, &c.—Sewage is discharged untreated into the estuary shortly after high water. A considerable extension of the sewers has taken place during the year, and some ventilating shafts have been erected. The sewers and street gullies are systematically flushed every day. The Authority carry out scavenging in a satisfactory manner, the refuse being taken to the destructor.

Sanitary Inspection.—Bakehouses comply with the requirements of the Act, but the slaughter-houses are "too close to the town and insufficient in number." New premises, however, are contemplated. Dairies and cowsheds—visited at irregular intervals—were found in a satisfactory condition. Workshops are in a cleanly state, fairly well ventilated, not overerowed, and the sanitary conveniences sufficient. Foul privy middens again caused a large amount of work; 38 were

abolished and water closets substituted, but there are still many in the town which constitute "a great nuisance and danger to health arising therefrom." The Inspector paid 530 visits, *re* nuisances.

Middleton (Borough).—(Area in acres, 4,775; Census Population, 25,178.)—*Medical Officer of Health*, WILLIAM GRAHAM, M.D., D.P.H.; *Salary*, £100.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	25·3 ...	26·5 ...	26·2
Death-rate	17·3 ...	16·0 ...	17·9
Zymotic death-rate.....	0·91 ...	1·31 ...	1·63
Phthisis ,,	1·19 ...	1·31 ...	1·43
Respiratory ,,	3·33 ...	4·21 ...	3·64
Rate of deaths under 1 year to 1,000 births.....	134 ...	122 ...	162

A reduction of 1·2 per 1,000 in the birth-rate as compared with last year is accompanied by a rise in the death-rate equal to 1·3. The zymotic rate is reduced, and is the lowest recorded for 10 years, but the infantile mortality is less favourable than in 1902. Diarrhoea, measles, and whooping cough contributed 5, 1, and 4 deaths respectively. Small-pox gave rise to 31 cases, all of which were removed to hospital, where 4 had a fatal termination. The usual precautionary measures were adopted. Scarlet fever contributed 52 cases 2 deaths, as compared with 53 cases no death in the preceding year. Typhoid fever was the cause of 2 cases 1 death, diphtheria—associated with membranous croup—17 cases 6 deaths, erysipelas 24 cases, and puerperal fever 1 case.

Hospital Accommodation is available at Marland (Rochdale), a retaining fee of £200 per annum being paid. The cases removed were small-pox 31, scarlet fever 1, and erysipelas 3.

Disinfection.—No proper appliances. Houses are fumigated either with sulphur or formalin.

Water Supply good; obtained from the Heywood and Middleton Water Board.

Sewerage, Scavenging, &c.—The Local Government Board have sanctioned the borrowing of £6,269 to defray cost of new bacteria beds, and an additional area of land is being laid out with filter beds. Scavenging is in the hands of the Authority. A site has been acquired upon which it is proposed to erect a refuse destructor.

Sanitary Inspection.—The Council closed several houses unfit for human habitation, and others were improved. The Inspector paid 562 visits to the 10 slaughter-houses, 177 visits to lodging-houses, but dairies and cowsheds only received 19 visits. Factories and workshops came under supervision—at 2 the closet accommodation was insufficient. In 88 instances conversion of privy middens to slop-water closets took place, and ash tubs were provided. The inspection of 23 canal boats revealed 3 infringements of the Act. Nuisances abated amounted to 264; two after the institution of legal proceedings. Eighty-seven smoke observations were taken, and the limit of 10 minutes per hour was exceeded in many instances; 15 offenders were prosecuted and fined.

Milnrow.—(Area in acres, 5,198; Estimated Population, 8,300). — *Medical Officer of Health*, JOHN CHADWICK, M.R.C.S.; *Salary*, £40.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.	
Birth-rate	22·7	21·3	..	19·8
Death-rate	13·8	14·5	..	14·9
Zymotic death-rate.....	1·08	0·60	..	1·21
Phthisis „	1·20	0·72	..	1·27
Respiratory „	2·77	2·66	..	2·95
Rate of deaths under 1 year to 1,000 births.....	132	113	..	138

The birth-rate is the highest recorded since 1893, and

exceeds by 2·9 per 1,000 the average of the 10 years 1893-1902, while the general death-rate—the lowest since 1898—shows a reduction of 1·1. The zymotic and infant rates are about the average. Improper feeding and undue exposure of infants are again referred to as important factors in the production of infantile mortality. Measles and diarrhœa did not cause a single fatality, and only 1 was ascribed to whooping cough. Two cases of small-pox were reported; they were carefully isolated, and all known contacts re-vaccinated. Scarlet fever gave rise to 7 cases, against 26 last year, and typhoid fever only caused 1 case, the same number as in 1902. The most troublesome of the infectious diseases was diphtheria—associated with membranous croup—which was responsible for 35 cases and 8 deaths, as compared with 5 cases no death in the preceeding year. Erysipelas was accredited with 13 cases.

Hospital Accommodation.—Last year I reported that “plans have been prepared for the joint isolation hospital, and it is hoped building operations will soon commence.” Little progress, however, has been made, and I can now only report that “amended plans are before the Local Government Board.”

Disinfection.—Fraser's hot air apparatus provided. Houses are fumigated with formalin or sulphur.

Water Supply obtained mostly from Rochdale and Oldham. The outlying districts rely on springs.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. Bacteria beds are now being constructed. On one occasion the Mersey and Irwell Watershed Joint Committee were not satisfied with the effluent. Sewers are frequently flushed. Scavenging is efficiently performed by the Council's employees.

Sanitary Inspection.—One underground bakehouse was condemned as unfit for its purpose, and was replaced by new

premises: two others were improved. The bakehouses above ground—32 in number—are in good order. Slaughter-houses (6), factories and workshops, and dairies and cowsheds on the whole give satisfaction. Some of the latter have recently been improved as regards ventilation, lighting, and water supply. The Inspector (Mr. Hoyle) served 14 notices and wrote 17 letters respecting nuisance abatement. Thirty-three smoke observations were taken, and the limit of 8 minutes' emission of black smoke per hour was exceeded on 8 occasions; in 4 legal proceedings were instituted, and the offenders fined.

Morecambe (Borough).—(Area in acres, 1,801; Estimated Population, 13,000.) — *Medical Officer of Health*, J. W. WATTERSON, M.B.; *Salary*, £50 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.	
Birth-rate	16·9 ...	18·7 ...	23·0	
Death-rate	13·9 ...	14·5 ...	13·2	
Zymotic death-rate	0·23 ...	1·36 ...	1·68	
Phthisis „	0·84 ...	1·28 ...	0·84	
Respiratory „	2·00 ...	1·76 ...	2·19	
Rate of deaths under 1 year to 1,000 births.....	131 ...	119 ...	139	

A decline in the birth-rate is again reported by Dr. Watterson, the rate for the year under review being no less than 6·1 per 1,000 of the population below the mean of the preceding decade. The general death-rate, which includes the deaths of 23 visitors to the town, is fractionally lower than last year's average. The zymotic rate is very favourable, and the lowest recorded. The rate of deaths of infants under one year was in excess of last year's average. Very few cases of measles and whooping cough came to the knowledge of the sanitary officials, and not a single death was attributed to these diseases. Diarrhœa caused only 1 fatality. One case of small-pox was reported in November; immediate removal to

hospital took place, and other precautionary measures were adopted. Scarlet fever of a mild type was responsible for 60 cases 1 death; on six occasions the disease was imported by visitors. Hospital isolation was again largely resorted to, 88 per cent. of the total cases being removed. Typhoid fever and diphtheria each caused 6 cases, against 11 and 25 cases respectively in 1902. Bacteriological examinations were made and proved of great value in confirming—or otherwise—the diagnosis of these two diseases. The remaining notifications were—erysipelas 5 cases and continued fever 1 case (fatal).

Hospital Accommodation consists of 35 beds and 3 cots. The lower block, containing 25 beds and 2 cots, is used principally for scarlet fever, and the upper block—10 beds 1 cot—is retained for small-pox. Fifty-five cases were removed during the year, viz., small-pox 1, scarlet fever 53, and typhoid fever 1.

Disinfection.—The Washington Lyon's steam apparatus was used 48 times, and 116 rooms were fumigated with formalin. A new disinfecting station is almost completed.

Water Supply, excellent in quality, is obtained from springs on the fells.

Sewerage, Scavenging, &c.—Much progress has been made with sewerage and the new sewage disposal scheme. Part of the sewage will, as heretofore, pass into the sea, and part to closed septic tanks. Few cesspools now remain, and these will be abolished as soon as possible. The Corporation officials are entrusted with the scavenging, and the method adopted gives satisfaction. A refuse destructor is in operation.

Sanitary Inspection.—Bakehouses are described as "very good." Special visits were paid to the 19 underground bakehouses, and all were found to require some alteration, mostly with regard to ventilation. Slaughter-houses—inspected regularly—are being constantly improved, but a public abattoir

would be more satisfactory. New bye-laws came into operation in December. Dairies and cowsheds do not appear to receive the attention that is necessary—a few are in very good order, others only fair, and odd ones are said to be “bad.” Factories and workshops and lodging-houses, on the whole, comply with sanitary requirements. Ships, vessels, vans, and tents also come under observation. Thirty privy middens were abolished and the water-carriage system substituted. The Inspector (Mr. Lamb) reported that 434 nuisances were abated. Meteorological data is appended to the report.

Port of Morecambe.—No case of infectious disease occurred during the year on any vessel visiting the Port. All foreign vessels were inspected on arrival, and all coasting vessels have come under supervision.

Mossley (Borough).—(Area in acres, 3,622; Estimated Population, 13,570.)—*Medical Officer of Health*, J. HEALEY, M.B.; *Salary*, £50 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.	
Birth-rate	18·7 ...	20·6 ...	22·4	
Death-rate	15·1 ...	14·8 ...	16·3	
Zymotic death-rate.....	0·66 ...	0·96 ...	1·46	
Phthisis „	1·03 ...	0·81 ...	1·29	
Respiratory „	2·80 ...	3·03 ...	3·11	
Rate of deaths under 1 year to 1,000 births.....	105 ...	107 ...	149	

The mortality statistics presented by Dr. Healey on the whole compare favourably with previous years. The general death-rate, excepting 1902, is the lowest for six years, the zymotic rate is less than in any year since 1894, and the rate of deaths under one year to 1,000 births is the lowest recorded. It may be added that the birth-rate also is lower than in any preceding year. Six deaths were ascribed to whooping cough, and 1 death to diarrhoea. Small-pox gave rise to 3 cases.

The infection was brought into the town in February by a tramp, who walked on to Ashton-under-Lyne, and was there found to be suffering from small-pox. The bedding he used and the house he stayed at in Mossley were disinfected, but, notwithstanding this, two lodgers caught the disease. Both were removed to hospital and the other occupants were vaccinated or re-vaccinated and quarantined. In May another case was reported—a man from Rochdale, where the disease was contracted. Similar precautions to the above were also adopted in this case. Scarlet fever—mild in character—contributed 18 cases, against 26 cases last year, and 156 cases in 1901. Typhoid fever, with 6 cases 2 deaths, and diphtheria, with 11 cases, also had a diminished prevalence as compared with the previous year, when the figures were 15 cases 1 death, and 14 cases 3 deaths respectively. Erysipelas caused 3 cases.

Hospital Accommodation is provided for small-pox cases only at May Hills, and the three cases above mentioned were treated there.

Disinfection.—A Delépine steam disinfecter is provided. One hundred and seventeen rooms and one school were disinfected.

Water Supply is obtained from Swineshaw and Bill-o'-Jack's reservoirs.

Sewerage, Scavenging, &c.—Sewage is treated in septic tanks and bacteria beds. On one occasion the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent. The Authority undertake scavenging.

Sanitary Inspection.—One underground bakehouse was altered to the satisfaction of the Committee. Other bakehouses, slaughter-houses, and lodging-houses are in good condition, and are kept clean. Dairies and cowsheds are not altogether satisfactory. As a result of factory inspection new closet accommodation was provided at some of the mills. The

Inspector (Mr. Taylor) served 62 notices, and secured the abatement of 250 nuisances.

Moss Side.—(Area in acres, 421; Estimated Population, 27,316.)—*Medical Officer of Health*, S. HOLGATE OWEN, M.D.; *Salary*, £100 (no claim).

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	20·5	...	17·5	...	16·7
Death-rate	14·1	...	12·7	...	12·4
Zymotic death-rate.....	1·39	...	0·85	...	1·16
Phthisis „	1·17	...	0·92	...	0·84
Respiratory „	2·19	...	2·77	...	2·16
Rate of deaths under 1 year to 1,000 births.....	124	...	124	...	147

A review of the mortality statistics will show that the annual rates as regards the deaths from all causes and from zymotic diseases for the past year are higher than they were in 1902. The infant rate is exactly the same, but still considerably lower than the record for any of the 10 years preceding 1902, whilst the birth-rate exceeds the annual record since 1892. Measles caused only 1 death, but whooping cough and diarrhoea were responsible for 10 and 7 deaths respectively. Between February 16th and April 26th 7 cases of small-pox were notified, and all were promptly removed to hospital. In four of the attacks the infection was most probably obtained from outside the district, and in 2 others the disease was contracted from a previous case in the same house. In several instances Dr. Owen received information from Medical Officers of Health of neighbouring districts that residents of Moss Side had been in direct or indirect contact with small-pox patients, and all these people were kept under observation until danger had passed. Scarlet fever was rather prevalent from January to April, the spread being, no doubt, assisted by school influence; altogether 131 cases were notified, and six deaths

resulted. Sixty-one per cent. of the persons attacked were removed to hospital. Typhoid fever contributed 14 cases 4 deaths. Bacteriological examination of serum was resorted to in 23 instances; in 3 only was a positive result obtained. Diphtheria, with 43 cases 10 deaths, was unusually prevalent during the year, meteorological conditions being extremely favourable to the spread of this disease. Of 24 cases examined bacteriologically the diagnosis was confirmed in 8. Erysipelas gave rise to 7 cases, and puerperal fever 1 case. Voluntary notification of phthisis is in force. In 32 cases of suspected phthisis the facilities for bacteriological examination afforded by the Council were made use of, the suspicion being confirmed in 12 instances.

Hospital Accommodation for ordinary infectious diseases is available at the Baguley Sanatorium, erected by Withington, and for small-pox at Newall Green, Higher Baguley, jointly with Withington. One hundred and ten cases were removed, viz., small-pox 7, scarlet fever 80, typhoid fever 5, and diphtheria 18.

Disinfection.—A disinfecting station supplied with apparatus for disinfecting with steam or hot air has been established, and during the year infected bedding, clothing, &c., from 207 houses have been successfully stoved.

Water Supply very good, obtained from Manchester.

Sewerage, Scavenging, &c.—The Order of Court to carry out works of sewerage to prevent further river pollution, obtained against this Council by the Mersey and Irwell Joint Committee, was extended. Several alterations to meet the requirements of the Joint Committee have been carried out, and an additional area of land purchased. The sewerage, paving, and flagging of new streets have been carried out with great expedition; and the drains of all new houses are carefully tested. Scavenging receives attention at the hands of the Authority, refuse being taken to the destructor.

Sanitary Inspection.—Twenty-six bakehouses are on the register, and, on the whole, they gave satisfaction. Underground bakehouses have been abolished except five, which are now being reconstructed in accordance with new regulations adopted by the Council. Private slaughter-houses do not exist, a public abattoir having been provided. There are 3 cowsheds and 79 dairies and milkshops, and all have received careful attention in reference to cleansing, ventilation, &c. Factories and workshops were also inspected, and when sanitary defects came under observation, the necessary notices followed. There are still some 1,680 houses at which the ashpit and privy system is still retained. The change to the water-carriage system, which is voluntary on the part of the owners, is very slow in progress. In only 22 instances has such conversion taken place during the year. The Inspector (Mr. Ainley) served 295 notices, and wrote 267 letters requiring nuisance abatement. Fifty smoke observations were taken.

Much Woolton.—(Area in acres, 792; Census Population, 4,731.)—*Medical Officer of Health*, CHARLES V. VEREKER, L.R.C.P.I.; *Salary*, £40.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	23·8 ...	27·0 ...	27·3
Death-rate	12·2 ...	12·4 ...	16·0
Zymotic death-rate.....	1·90 ...	1·47 ...	1·82
Phthisis ,,	0·84 ...	nil ...	1·66
Respiratory ,,	2·74 ...	1·90 ...	3·05
Rate of deaths under 1 year to 1,000 births.....	97 ...	62 ...	138

The birth-rate was 3·2 per 1,000 below last year's rate, and the death-rate showed a fractional reduction. Both rates were lower than for some years past. The zymotic rate is slightly above the average, but the infantile mortality remains favourable. Measles and diarrhoea each caused 4 deaths, and whooping cough 1 death. On account of the prevalence of the

first-mentioned disease school closure was resorted to. Small-pox gave rise to 3 cases, which were immediately isolated in hospital. The remaining notifications were scarlet fever 4, typhoid fever 1, and diphtheria 1.

Hospital Accommodation.—Three beds are reserved at Whiston sanatorium, but the accommodation is not considered sufficient. Three small-pox cases and 1 scarlet fever case were removed.

Disinfection. — Fraser's hot air apparatus available.

Water Supply obtained from Liverpool.

Sewerage, Scavenging, &c.—The sewage of the eastern portion of the district flows to an irrigation farm, and that of the remaining part to the Liverpool sewers. The Authority carry out scavenging in a satisfactory manner.

Sanitary Inspection.—One underground bakehouse was closed; the other bakehouses are in good condition, and the same may be said of slaughter-houses. Dairies and cowsheds are described as "fairly good." Forty-seven privy middens were converted to the water-carriage system. The Inspector served 47 notices. Smoke observations numbered 200.

Nelson (Borough).—(Area in acres, 3,466; Estimated Population, 35,000.)—*Medical Officer of Health*, A. P. MILLAR, M.D.; *Salary*, £80.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	22·0	...	24·0	...	27·1
Death-rate	12·3	...	11·3	...	13·7
Zymotic death-rate.....	0·80	...	1·84	...	1·68
Phthisis ,,	0·77	...	0·78	...	0·78
Respiratory ,,	2·94	...	1·96	...	2·92
Rate of deaths under 1 year to 1,000 births..	139	...	109	...	147

The birth-rate again declined, showing a decrease of 5·1

per 1,000 of the population below the mean of the 10 years 1893-1902. The general death-rate rose 1 per 1,000 above last year's average, but fell 1.4 below the rate for the preceding decade. The zymotic and infant rates also compare favourably with the 10 years' average. Measles and diarrhoea each caused 3 deaths and whooping cough 5 deaths. Small-pox gave rise to 14 cases: they were all removed at once to the small-pox hospital, the houses they left disinfected, the clothing taken to the steam disinfector, all willing contacts re-vaccinated, and those that refused kept under observation for a fortnight. Scarlet fever again had an extensive spread, 210 cases being reported and 10 deaths, against 269 cases 12 deaths in 1902. Typhoid fever was responsible for 15 cases 3 deaths, diphtheria 30 cases 4 deaths, erysipelas 23 cases, and puerperal fever 2 cases, the total notifications thus being 294, as compared with 480 in the previous year, 114 in 1901, and 291 in 1900.

Hospital Accommodation.—No provision is made for ordinary infectious diseases. The negotiations with Colne (B.)—mentioned last year—as to the provision of a joint hospital seems to have fallen through, and the Nelson Corporation have therefore reverted to their first intention of providing separate hospital accommodation for the Borough. They have two sites at present under consideration. At Catlow two corrugated iron hospitals with 32 beds are provided for small-pox, and 14 small-pox patients were isolated there.

Disinfection.—A permanent disinfecting station, fitted with an Alliott & Paton's steam disinfector has been completed, and is now in use. This has been urgently needed for some years. Houses are fumigated with sulphur.

Water Supply obtained from the Coldwell and Ogden reservoirs. The supply has been plentiful during the year. A new reservoir in the Ogden Valley is practically completed, and will increase the storage capacity by 50,000,000 gallons,

which will for a considerable time ensure consumers within the water limits a good and plentiful supply of pure water.

Sewerage, Scavenging, &c.—In connection with the sewage disposal works a Local Government Board Inquiry has been held regarding the borrowing of £25,000 for the completion of the works and the purchase of about seven acres of land. Already four percolating bacteria beds 60 feet in diameter and 7 feet deep, and one 100 feet in diameter and of the same depth, have been completed and put into operation. Scavenging is carried out by the Corporation staff, ashes and refuse being burnt in the destructor.

Sanitary Inspection.—Bakehouses are in good order, and slaughter-houses—19 in number—are described as “fair.” Dairies and cowsheds—subject to regulations—are periodically inspected, and, on the whole, give satisfaction. Notices have been served for alterations and additions to the sanitary conveniences in connection with 30 tenement factories, and the work is being slowly proceeded with. The Inspector (Mr. Priestley) has secured the abatement of nuisances in the majority of cases by an intimation to the persons responsible, but 121 statutory notices were required.

Newton-in-Makerfield.—(Area in acres, 3,105; Estimated Population, 17,710.)—*Medical Officer of Health*, HAROLD E. WATKINS, M.R.C.S.; *Salary*, £75.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.	
Birth-rate	34·8 ...	34·9 ...	34·7	
Death-rate	16·2 ...	14·6 ...	15·7	
Zymotic death-rate.....	2·59 ...	1·39 ...	2·29	
Phthisis ,,	1·01 ...	0·86 ...	0·82	
Respiratory ,,	3·38 ...	3·82 ...	3·23	
Rate of deaths under 1 year to 1,000 births.....	137 ...	121 ...	149	

The rise in the birth-rate reported last year has been

maintained during the year under review. The general death-rate, zymotic rate, and infant rate, however, do not compare favourably with the average of 1902. The increase in the latter rate is attributed partly to the distress which occurred in the latter part of the year, but more particularly to want of better knowledge in the care of young children both in health and disease, especially as regards feeding. Measles—the cause of 19 deaths—occurred in Town Hall Ward in epidemic form during the months of September, October, and November. So many were the cases, and so seriously was the attendance of scholars at the Manor School affected, that it was considered expedient to close the school for a period of four weeks. Dr. Watkins advised the inclusion of measles in the list of notifiable diseases, and the Council had the matter under consideration at the close of the year. Whooping cough and diarrhœa contributed 6 and 9 deaths respectively. Small-pox occurred on two occasions, 1 case in January and 1 in August. The first case was isolated at home, and the second removed to the Liverpool Corporation hospital. Scarlet fever was more or less prevalent throughout the year, but especially during the last quarter; altogether 90 cases were reported, and 5 deaths resulted. Diphtheria and membranous croup—the cause of 40 cases 6 deaths—broke out epidemically in the first quarter, confined almost entirely to the Town Hall, Viaduct, and Crow Lane Wards in their contiguous portions. The disease was attributed to defective sanitary arrangements at one of the schools. These defects were completely remedied by thorough reconstruction on modern lines. Typhoid fever was responsible for 3 cases 1 death, erysipelas 22 cases, puerperal fever 1 case, and chicken-pox—voluntarily notified from February to the end of the year—27 cases. Dr. Watkins says more use might be made of the facilities offered by the Council for bacteriological examinations. Fifteen cases of phthisis were voluntarily reported.

Hospital Accommodation.—Arrangements have been made with Liverpool for the treatment of small-pox cases from this

district in the Corporation hospital at Fazakerley, and with the Warrington Corporation for the treatment of "fever" cases. As already stated, 1 case of small-pox was removed to Liverpool, and 32 cases were treated at Warrington, viz., scarlet fever 29, and diphtheria 3. The Medical Officer of Health reports that the absolutely inadequate provision which the Council have been able of late to obtain for the isolation of infectious diseases makes the erection of an isolation hospital a matter of extreme urgency.

Disinfection of infected articles and premises is now principally done by formalin vapour, although the sulphur fumigation is not entirely discarded. Rooms disinfected numbered 332.

Water Supply, excellent in quality and quantity, is obtained from the Council's own waterworks at Southworth Road.

Sewerage, Scavenging, &c.—The system of sewers now extends over almost the whole district, but in some parts the sewers have not a sufficient fall to entirely remove solid matters. Flush tanks at their blind ends are recommended. The sewage is treated in bacterial contact beds. The water courses in the district are more or less polluted. The Millingford Brook is in a considerably purer state than formerly, but the Sankey Brook still continues filthy. Scavenging is performed by the Authority. The difficulty in obtaining a suitable tip for refuse disposal would be solved by the erection of a destructor.

Sanitary Inspection.—Lodging-houses, slaughter-houses, dairies and cowsheds, bakehouses, &c., are under constant supervision. With few exceptions they have been found in a satisfactory state. Two underground bakehouses were condemned. Factories and workshops, on the whole, comply with the requirements of the Act. A few conversions of privy middens to the water-carriage system have taken place during

the year. The Inspector (Mr. Ashcroft), as a result of 232 notices, secured the abatement of 483 nuisances.

Norden.—(Area in acres, 5,358; Estimated Population, 3,924.)

—*Medical Officer of Health*, DAVID B. CARSE, M.B.; *Salary*, £30.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	20·8	...	21·2	...	20·4
Death-rate	16·5	...	17·1	...	14·9
Zymotic death-rate	0·76	...	1·53	...	1·23
Phthisis „	0·76	...	0·76	...	0·87
Respiratory „	2·29	...	3·58	...	2·46
Rate of deaths under 1 year to 1,000 births.....	195	...	108	...	121

The most noticeable feature of the mortality statistics for the year under review is the large increase in the infantile mortality as compared with last year, viz., 195 per 1,000 against 108. This year's average is higher than any recorded during the decennial period 1893-1902. The birth, death, and zymotic rates are all below the rates obtained in the previous year. Only one death was due to diarrhoea, and not a single fatality was ascribed to measles or whooping cough. One case of small-pox arose; the patient was promptly isolated in hospital, and the usual precautionary measures adopted. Scarlet fever gave rise to 6 cases, typhoid fever 1 case, and diphtheria—associated with membranous croup—9 cases 2 deaths.

Hospital Accommodation.—One case was removed to a farmhouse at Cheesden Top, which has been converted into a hospital (4 beds) for the treatment of small-pox. There is no accommodation for the ordinary infectious disease.

Disinfection.—No apparatus; sulphur fumigation relied upon.

Water Supply is obtained chiefly from the Heywood and Middleton Water Board, and in a few instances from private supplies.

Sewerage, Scavenging, &c.—New outfall works are in course of construction, but serious difficulties have been met with owing to subsidences through colliery workings. The Order of Court obtained by the Mersey and Irwell Joint Committee has been further extended. Scavenging is efficiently performed by the Council's employees.

Sanitary Inspection.—Bakehouses, slaughter-houses, dairies, and cowsheds are well kept and in fairly good condition. Factories and workshops were inspected, with good results. Only two notices were required for nuisance abatement.

Ormskirk.—(Area in acres, 574; Census Population, 6,857.)

Medical Officer of Health, WILLIAM ANDERTON, F.R.C.S.E.;
Salary, £50.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	28·7	...	32·0	...	34·5
Death-rate	17·6	...	18·6	...	22·2
Zymotic death-rate.....	1·02	...	0·87	...	1·96
Phthisis ,,	1·16	...	1·02	...	1·73
Respiratory ,,	3·06	...	5·39	...	5·74
Rate of deaths under 1 year to 1,000 births.....	121	...	154	...	161

The birth and death rates are again reduced as compared with the previous year, and they are 5·8 and 4·6 per 1,000 of the population respectively below the averages of the preceding 10 years. There is also a gratifying reduction in the infantile mortality, which is lower than any previously recorded, excepting 1900, when it was exactly the same. The deaths in courts and alleys amounted to more than one-fifth of the

total deaths of the district. Measles gave rise to 2 deaths and diarrhœa 1 death. Seven cases of small-pox were reported—all originated in one common lodging-house, the infection having been brought by a tramp from Liverpool. The cases were removed to hospital, the bedding and houses thoroughly disinfected, and rigid isolation insisted on of all those who had come into contact with the infected persons. Scarlet fever was responsible for 44 cases 2 deaths, typhoid fever 5 cases 1 death, diphtheria 3 cases 1 death, and erysipelas 4 cases.

Hospital Accommodation is provided jointly with Lathom and Burscough at Green Lane for ordinary infectious diseases, and at Burscough for small-pox. Twenty-five cases were removed from this district, viz., small-pox 7, scarlet fever 17, and diphtheria 1.

Disinfection.—The steam apparatus was used 13 times, and 26 houses were fumigated.

Water Supply obtained from deep sandstone wells. A new well has, during the year, been sunk, and the yield of water is now more than doubled.

Sewerage, Scavenging, &c.—"The disposal of the sewage at the sewage farm continues very satisfactory." The method of treatment is broad irrigation over 30 acres, and the under-drained effluent therefrom is discharged on to bacterial filters. "The provision of automatic flushing chambers at the summit of the various sewers, and the erection of ventilating shafts along the line of sewers would be a great help in abating any nuisance that may arise through sewer gas." The Authority carry out scavenging. A difficulty will shortly be experienced in disposing of refuse, and Dr. Anderton suggests the erection of a destructor, which would effectually solve the difficulty.

Sanitary Inspection.—The courts and alleys have been regularly cleansed and swept, the drains have been disinfected, and other improvements effected. The Council have now

completed their insanitary property scheme, and are only waiting the consent of the Local Government Board to carry out the work of demolition. Bakehouses, slaughter-houses, and lodging-houses—periodically inspected—are mostly satisfactory. The only underground bakehouse was abolished. Special inspections of the dairies and cowsheds have been made; in nearly all the shippens the air space per cow was too small, and some were totally unfit for their purpose, being defective in air space, lighting, ventilation, drainage, and cleanliness. There is no occasion for special comment as to cleanliness, ventilation, &c., of the factories and workshops. The number of wet ashpits is considerable, and in the near future steps ought to be taken to remedy this nuisance. Seven notices were served for nuisance abatement.

Orrell.—(Area in acres, 1,617; Census Population, 5,436.)
—*Medical Officer of Health*, J. LLOYD JOHNSTONE, M.R.C.S.;
Salary, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.	
Birth-rate.....	36·0 ...	37·5 ...	40·0	
Death-rate	14·7 ...	14·3 ...	19·0	
Zymotic death-rate.....	2·75 ...	1·10 ...	2·84	
Phthisis ,,	nil. ...	0·18 ...	0·96	
Respiratory ,,	3·31 ...	2·94 ...	3·37	
Rate of deaths under 1 year to 1,000 births.....	142 ...	117 ...	150	

The birth-rate is 4 per 1,000 below the mean of the preceding decennial period and is 1·5 below last year's average. The death-rate shows a fractional increase as compared with 1902, but is well below the 10 years' average. The zymotic rate is increased, due principally to diarrhœa, which caused 9 deaths, all amongst infants under the age of 18 months, "indicating a lack of proper care and attention in the feeding of children of tender years." Measles and whooping cough

each contributed one death. Small-pox appeared in the township on January 5th at Far Moor. The origin of the infection could not be traced. The second attack occurred in March: the victim, an unvaccinated baby, died. Three other members of the same family and an intimate friend were attacked. Three other cases broke out close by, and the disease then did not manifest itself again until June when 3 more persons became its victims. A further case was reported in July, making a total of 13 attacks and 1 death. With one exception the whole of the cases occurred in East Ward. The Council, unfortunately, do not possess any hospital accommodation, and they were unable to rent a suitable cottage for the treatment of the small-pox patients or to purchase land suitable for erecting temporary accommodation. Under these circumstances they had no resource but that of isolating the patients at their own homes. Chicken-pox was also a troublesome disease; it was made notifiable for a period of six months, and 24 cases were reported. Scarlet-fever was the most prevalent of the infectious diseases, 66 cases being reported, one of which had a fatal termination. Typhoid fever was responsible for 8 cases, diphtheria and membranous croup 6 cases 2 deaths, erysipelas 12 cases, and peurperal fever 1 case.

Hospital Accommodation nil. This district is associated under an Order of the County Council with neighbouring Authorities for the purpose of providing a small-pox hospital.

Disinfection.—No apparatus. Forty houses fumigated with sulphur.

Water Supply “abundant and good.”

Sewerage, Scavenging, &c.—Sewage is conveyed to the Wigan Corporation sewer at Gathurst. The Authority carry out scavenging.

Sanitary Inspection.—Inspection of the district has been “regularly conducted.” Bakchouses and slaughter-houses are

well conducted, and dairies and cowsheds are described as "fairly satisfactory." Many of the latter, however, are stuffy and insufficiently ventilated, whilst the linewashing is not carried out as regularly as it should be. Unfortunately the Council have not adopted dairy, &c., regulations. Under the Factory and Workshop Act there is little to record; nearly all the premises conform to the requirements. Nuisances remedied amounted to 79, and 20 notices were served.

Oswaldtwistle.—(Area in acres, 4,885; Estimated Population, 14,600.)—*Medical Officer of Health*, EDWIN HAWORTH, M.B.; *Salary*, £60.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	26·8	...	27·4	...	28·0
Death-rate	15·2	...	13·2	...	16·5
Zymotic death-rate.....	0·61	...	0·82	...	1·86
Phthisis ,, 	0·75	...	0·75	...	0·82
Respiratory ,, 	2·73	...	2·41	..	3·80
Rate of deaths under 1 year to 1,000 births... ..	132	...	138	...	167

A decline in the birth-rate as compared with last year, equal to 0·6 per 1,000 of the population, is accompanied by an increase in the death-rate of 2·0 per 1,000. The zymotic and infant rates, however, are both reduced, and are the lowest recorded for 10 years. Diarrhœa caused 3 deaths, and measles 1 death. Small-pox gave rise to 2 cases—1 in February and 1 in May; both were removed to hospital. Scarlet fever, with 35 cases 3 deaths, was prevalent in every month except November, the majority of the attacks taking place during the first quarter of the year. Typhoid fever contributed 7 cases 2 deaths, diphtheria 6 cases, and erysipelas 9 cases.

Hospital Accommodation.—The only provision is a farm house (10 beds) kept in readiness for small-pox. Two cases were isolated there.

Disinfection. — Steam disinfecting chamber provided. Houses fumigated with formaldehyde gas.

Water Supply good; obtained from adjacent moorland. A loan of £2,000 has been obtained to replace old corroded water mains.

Sewerage, Scavenging, &c.—For dealing with the sewage at the outfall works there are five tanks, three used as septic tanks and two as storm tanks. Part of the septic tank liquid is treated in double contact beds, and a part on single contact beds and land. The Chief Inspector of the Ribble Joint Committee reported in January last that the effluents were now improving. The sludge in the lagoons has been accumulating for some years, and the drying of the fresh sludge becomes increasingly difficult. It would be advisable to make some attempt to dispose of it to the farmers. Scavenging is satisfactorily performed by the Authority. Sanction has been obtained to pave, &c., a number of back streets at a cost of £6,627.

Sanitary Inspection.—Thirty-three houses were condemned as unfit for human habitation, 14 were either closed or demolished, and 9 made into “through” houses. Bake-houses comply with the requirements, except one underground. Slaughter-houses are well conducted. The only remaining common lodging-house was closed. Dairies and cowsheds on the whole are fairly good; the unsatisfactory ones will shortly receive attention, as new regulations have been adopted. Conversion of privy middens to the water-carriage system continues, 274 being so converted during the year under review. The total number of these receptacles altered to date is—houses 1,762, schools 8, and factories 7. The Inspector (Mr. Hunter) served 214 notices, secured the abatement of 274 nuisances, &c. Reference is made to nuisance from black smoke, but, apparently, no observations were taken. “The Infectious Disease (Prevention) Act, 1890,” was adopted on the 14th of December, 1903.

Padiham. — (Area in acres, 970; Estimated Population, 12,383.)—*Medical Officer of Health*, W. SMITHIES, L.R.C.P.; *Salary*, £35 (no claim).

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	27·8	...	27·7	...	26·7
Death-rate	15·5	...	16·1	...	17·1
Zymotic death-rate.....	0·65	...	1·96	...	2·12
Phthisis ,,	0·88	...	0·57	...	0·95
Respiratory ,,	2·01	...	2·53	...	3·22
Rate of deaths under 1 year to 1,000 births..	168	...	194	...	188

Dr. Smithies reports a birth-rate which is almost identical with the previous two years, but is 1·1 per 1,000 above the mean of the preceding decade. The general death-rate is the lowest recorded since 1900, and the zymotic and infant rates are more favourable than for some years. Measles contributed 1 death, whooping cough 3 deaths, and diarrhoea 2 deaths. Twenty-six cases of small-pox were reported, 14 in January, 8 in March, 3 in April, and 1 in May. All the patients promptly received hospital isolation, and the usual precautionary measures were adopted; 1 death took place in hospital. To scarlet fever were ascribed 12 cases, typhoid fever 3 cases 1 death, diphtheria and membranous croup 11 cases 1 death, erysipelas 15 cases, continued fever 2 cases, and puerperal fever 1 case.

Hospital Accommodation is available at the Burnley, &c., joint hospital, both for small-pox and the ordinary infectious diseases. The whole of the small-pox cases—26 in number—and 8 cases of scarlet fever were removed.

Disinfection.—The Burnley Corporation apparatus is used. Houses undergo fumigation either with sulphur or formaldehyde gas.

Water Supply, obtained from Pendle Range, excellent and abundant.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. At the request of the Chief Inspector of the Ribble Joint Committee the Local Authority decided to use alumina ferric as a precipitant instead of lime, and better effluents are now obtained. Scavenging is performed satisfactorily by the Authority, the refuse being burnt in the destructor.

Sanitary Inspection.—One underground bakehouse was abolished. The other bakehouses, slaughter-houses, dairies and cowsheds, and factories and workshops are said to be in good condition. Lodging-houses are frequently inspected, and existing regulations with regard to them insisted upon. The Inspector served 124 notices for the abatement of a like number of nuisances.

Pemberton.—(Area in acres, 2,895; Estimated Population, 22,398.)—*Medical Officer of Health*, ROBERT HARTLEY, M.R.C.S.; *Salary*, £60.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	38·6	...	39·2	...	39·1
Death-rate	20·2	...	17·2	...	19·6
Zymotic death-rate.....	4·91	...	2·67	...	3·46
Phthisis ,,	1·02	...	0·58	...	0·82
Respiratory ,,	3·48	...	3·26	...	3·79
Rate of deaths under 1 year to 1,000 births.....	182	...	185	...	179

The birth-rate is slightly lower than last year and the mean of the preceding decade, but the death-rate is higher than any recorded during the ten years, excepting 1899, when it was exactly the same. The zymotic rate is very high, and the rate of deaths under one year to 1,000 births is above the

average. Measles caused 30 deaths, chiefly among children attending Highfield schools, in the Central Ward, which district had escaped the epidemic the year before, when 9 deaths were recorded. Diarrhoea again had an extensive prevalence, and no less than 39 deaths resulted; in 1902, 34 deaths were due to this disease. Whooping cough contributed 6 deaths. Small-pox gave rise to 15 cases 2 deaths; the disease had been prevailing for some time in adjoining districts before it made its appearance here. The first case was notified April 4th, and further cases broke out intermittently until July. All the patients were promptly removed to hospital; the infected bedding was destroyed; all contacts and residents in the infected areas were urged to be vaccinated; and the former were kept under observation for two or three weeks. Scarlet fever prevailed throughout the district, and there were 363 cases notified with 15 deaths, as compared with 78 cases 5 deaths in 1902. Not a single case received hospital isolation, as the hospital was reserved almost entirely for small-pox. Typhoid fever contributed 32 cases 5 deaths, against 82 cases 3 deaths in the previous year; and diphtheria—associated with membranous croup—was responsible for 27 cases 12 deaths, against 23 cases 4 deaths. Typhus fever caused 1 case (fatal), erysipelas 40 cases, and puerperal fever 4 cases. A smart attack of dysentery, affecting both children and adults, chiefly in certain streets in Goose Green, caused 46 cases and 2 deaths. There is a fried fish shop in the locality, and a consignment of fish was found to have been brought into the district on a certain day, a large quantity of the same fish having been destroyed in the market town. The Medical Officer of Health could not trace the outbreak to any more likely cause.

Hospital Accommodation—The hospital—provided with 8 beds—was used for the treatment of 15 cases of small-pox and 2 of typhoid fever. When the Wigan and District Joint Hospital Board—of which Pemberton is a constituent

Authority—provide a hospital for small-pox the existing accommodation above referred to will be available for the treatment of ordinary infectious cases.

Disinfection.—A dry heat stove at the hospital is used for infected bedding, clothing, &c. One school and 231 houses were fumigated with sulphur.

Water Supply, “as usual, good and plentiful.” An additional gathering ground has been secured, and steps are now being taken to obtain water from this source.

Sewerage, Scavenging, &c.—Sewage is treated by settlement and irrigation. Six acres of land have been re-underdrained. Owing to mining subsidences part of the farm has been submerged by the River Douglas, and at the suggestion of the Chief Inspector of the Ribble Joint Committee the sewage and storm water was treated on another portion of the farm. Some of the sewers also have become defective through the sinking of land. The Authority carry out scavenging. A number of back streets and passages have recently been paved, flagged, &c.

Sanitary Inspection.—House inspection revealed several cases of overcrowding; many premises were found to be in want of limewashing and cleansing, and nuisances caused by the keeping of animals came under notice. Some of the bakehouses and workshops required limewashing, and at one of the slaughter-houses the drainage arrangements were found to be defective. Dairies and cowsheds are in fairly good condition; two old cowsheds were demolished. Sixteen w.c.'s have been provided in lieu of privies, and many other privy middens underwent reconstruction. The Inspector served 87 notices, and secured the abatement of 364 nuisances. Smoke observations are taken “occasionally,” and several notices were served requiring the abatement of smoke nuisances.

Poulton-le-Fylde.—(Area in acres, 915; Census Population, 2,223.)—*Medical Officer of Health*, JAMES ANDERSON, M.B.; *Salary*, £20.

Per 1,000 of Population.	1903.	1902.	Mean of 3 years, 1900-1902.
Birth-rate... ..	30·1 ...	26·5 ...	26·4
Death-rate	10·3 ...	14·8 ...	13·4
Zymotic death-rate.....	0·44 ...	0·44 ...	0·29
Phthisis ,,	0·34 ...	nil ...	0·71
Respiratory ,,	nil ...	3·14 ...	1·49
Rate of deaths under 1 year to 1,000 births	59 ...	101 ...	121

The birth-rate is the highest and the death and infant rates are the lowest recorded since the formation of this district. The zymotic rate is exactly the same as last year and 1901. Towards the end of the year measles was so prevalent that both large schools were closed. No deaths were ascribed to this disease, or to diarrhoea and whooping cough. Seven notifications were received, viz., scarlet fever 5, and diphtheria 2. One of the latter had a fatal termination.

Hospital Accommodation is provided at Moss Side (Fylde) for ordinary infectious cases, and at Elswick for small-pox. Two cases of scarlet fever were removed.

Disinfection.—No apparatus.

Water Supply obtained from the Fylde Water Board.

Sewerage, Scavenging, &c.—Sewage flows by gravitation into the tidal portion of the River Wyre at Skippool. The sewers are flushed and cleaned out once a fortnight in summer and once a month in winter. The water courses have not been cleaned out as often as desirable. Scavenging—performed by contract—has been more expeditiously done than formerly.

Sanitary Inspection.—The debris has been removed from

Cock Pit Court, and much improvement has been effected in the cleanliness thereof. Several insanitary cottages have been demolished, and others are receiving attention. Bake-houses, slaughter-houses, and dairies and cowsheds are said to be in good condition. Six privy middens were converted to the water-carriage system. The Inspector (Mr. Wilson) served 21 notices for the abatement of nuisances, and all were complied with.

Preesall-with-Hackinsall.—(Area in acres, 3,232; Estimated Population, 1,475.) — *Medical Officer of Health*, W. H. ROBINSON, M.R.C.S.; *Salary*, £20.

Per 1,000 of Population.	1903.		1902.		Mean of 3 years, 1900-1902.
Birth-rate.....	23·0	...	26·2	...	27·9
Death-rate	12·8	...	15·1	...	12·0
Zymotic death-rate.....	0·67	...	0·68	...	2·05
Phthisis „	0·67	...	1·37	...	0·45
Respiratory „	1·35	...	3·44	...	2·14
Rate of deaths under 1 year to 1,000 births.....	88	...	78	...	44

The birth-rate is well below the average of previous years, but the death-rate shows a fractional increase. To the principal zymotic diseases only one death was ascribed, viz., whooping cough. Scarlet fever—the cause of 8 cases—suddenly made its appearance in June, when 7 cases were reported. All seemed to arise from the infant school, which was closed for a period of six weeks. The other case occurred in September. Diphtheria gave rise to 4 cases, and erysipelas 1 case.

Hospital Accommodation for ordinary infectious cases nil. For small-pox the Elswick joint hospital is available.

Disinfection.—No apparatus; sulphur fumigation relied upon.

Water Supply—obtained from private wells and rain tanks—fair, but scarce. Efforts to obtain a supply from the Fylde Water Board have, so far, failed, but the matter is being revived.

Sewerage, Scavenging, &c.—Dr. Robinson says “I have again to regret that I cannot report any progress in respect to the sewerage and sewage disposal for the district. I must again draw your attention to the danger to health which this entails.” Excrement removal and the emptying of cesspools is undertaken by the Authority in the populous parts.

Sanitary Inspection.—Bakehouses, slaughter-houses, and workshops have been regularly visited, and generally fulfil requirements. Dairies and cowsheds are not subject to regulations, and do not come under supervision. Ten nuisances were abated after service of notice.

Prescot.—(Area in acres, 297 ; Census Population, 7,855.)—

Medical Officer of Health, EGERTON F. HALL, M.D. ;

Salary, £35.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	39·2 ...	36·0 ...	38·3
Death-rate	24·3 ...	19·8 ...	19·0
Zymotic death-rate.....	5·60 ...	2·80 ...	2·67
Phthisis ,, 	1·27 ...	1·27 ...	0·86
Respiratory ,, 	5·09 ..	2·80 ...	3·65
Rate of deaths under 1 year to 1,000 births.....	204 ...	169 ...	161

The mortality statistics presented by Dr. Hall cannot be considered satisfactory. The general death-rate (24·3 per 1,000) is 5·3 above the mean of the preceding decade, and is the highest recorded for the district. The zymotic and infant rates are also excessive. The birth-rate is higher than any recorded since 1897. Diarrhœa and measles were mainly

responsible for the rise in the mortality averages, these diseases causing no less than 21 and 13 deaths respectively. The latter disease was most prevalent about the month of May, and necessitated school closure. Whooping cough gave rise to 2 deaths. A death from small-pox was registered at the workhouse, but details as to source of infection, mode of isolation, &c., are not given. Scarlet fever contributed 56 cases 3 deaths, against 67 cases 1 death in the previous year, and typhoid fever caused only 2 cases 1 death, as compared with 27 cases 4 deaths. Diphtheria and membranous croup were responsible for 12 cases 3 deaths, and erysipelas 11 cases.

Hospital Accommodation.—One bed is reserved for the use of this district at the Whiston sanatorium. Eight cases were removed during the year, viz., scarlet fever 6, and diphtheria 2.

Disinfection.—Steam apparatus at the hospital available. Forty-eight houses were fumigated.

Water Supply good, obtained from Liverpool.

Sewerage, Scavenging, &c.—The Council have had under consideration the question of enlarging the sewage works and adopting an improved method of treatment. Scavenging is carried out by the Council's workmen.

Sanitary Inspection.—Twenty-four houses have recently been erected for the working class, at a cost of £4,400, and plans for 14 others, to cost £2,880, have been approved by the Local Government Board. These are to take the place of an insanitary area, the houses on which were condemned and demolished. A special house-to-house inspection of the whole district has been made, and several reports on the back-to-back houses, and houses without through ventilation have been laid before the Council. Bakehouses, seven in number, are described as good; one underground bakehouse was closed as unsuitable for its purpose. Dairies and cowsheds were found to be in "fairly good" condition, and there was "no fault to

find " with the factories and workshops. Ten privy middens were converted to water closets, and several others modernised. The Inspector (Mr. Leyland) gives details of the work accomplished in his department, which included the abatement of 143 nuisances. "Many" smoke observations were taken.

Prestwich.—(Area in acres, 2,494; Estimated Population, (excluding Asylum), 10,285.)—*Medical Officer of Health*, FRED. STEPHENSON, L.R.C.P.E; *Salary*, £50 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	24·3 ...	21·2 ...	23·8
Death-rate	14·0 ...	12·0 ...	14·0
Zymotic death-rate.....	1·26 ...	0·69 ...	1·71
Phthisis ,,	1·06 ...	1·38 ...	1·11
Respiratory ,,	2·62 ...	2·77 ...	2·43
Rate of deaths under 1 year to 1,000 births.....	92 ...	79 ...	114

On the 9th of November, 1903, by the extension of the City of Manchester, this district sustained a loss of 673 acres, a population of 63, and a rateable value of £1,436. The greater part (656 acres) of the area transferred was park land. In calculating the various averages the population and deaths in the County Asylum are excluded. The birth-rate, although low, is higher than any recorded since 1897, and is fractionally above the mean of the preceding decennial period. The death-rate coincides with the 10 years' average, whilst the zymotic, phthisis, and infant rates are more favourable. Whooping cough, with 5 deaths, was the most fatal of the zymotic diseases. Measles and diarrhœa did not contribute a single fatality. Small-pox gave rise to 3 cases, 2 of which had a fatal termination. The first case occurred in March, a bed-ridden woman who contracted the disease from her husband, a workman from Manchester. The patient was at once

removed to hospital, but died five days later. The second and third attacks took place in April, an outdoor porter and his wife. Both were removed to hospital and the man died. All known contacts were isolated and re-vaccinated. Scarlet fever, mostly of a mild type, was present throughout the year. Twenty-four cases were reported, and 2 resulted fatally. Typhoid fever—"a disease of rare occurrence in this district"—caused 8 cases 3 deaths. On investigation all the cases were found to have been imported from other districts. Diphtheria contributed 6 cases 1 death, erysipelas 7 cases, and puerperal fever 2 cases. Bacteriological examinations in diphtheria and typhoid fever cases have again been carried out. Under this arrangement 10 samples of blood and 2 throat swabs have been examined. In only 4 cases did the serum give a typhoid reaction, and only 1 case of diphtheria was verified. Dr. Stephenson says—"if the medical men would withdraw their certificates of cases not verified it would be more satisfactory."

Hospital Accommodation.—The Salford Corporation small-pox hospital is situated in this district, and the Council have an arrangement for the treatment of local cases. There is also an agreement with the same Corporation to receive patients from Prestwich into their sanatorium at Ladywell (Eccles). Under these arrangements 13 cases were removed, viz., small-pox 3, diphtheria 2, and scarlet fever 8.

Disinfection.—No proper appliances. Infected articles of bedding, clothing, &c., are "sometimes" steamed at the hospital. Houses are fumigated with sulphur.

Water Supply for drinking purposes for the villages of Prestwich, Rooden Lane, and Rainsough is derived from the Corporations of Manchester and Bury. The Manchester water is of excellent quality, and the Bury water has much improved of late. Simister Lane district is satisfactorily supplied from the Heywood Corporation.

Sewerage, Scavenging, &c.—Sewage is treated on bacteria beds and by land filtration at two works, viz., “Clough” and “George Street.” At the former the Council have purchased an additional area of land, and some alterations at the latter works have been carried out with a view to improving the character of the effluent. On several occasions the Mersey and Irwell Joint Committee have called attention to unsatisfactory samples. The main sewers have been flushed and disinfected three times during the year, and all the manholes thoroughly cleansed. The Authority undertake scavenging.

Sanitary Inspection.—Bakehouses (13) have been periodically visited. At two underground bakehouses alterations were made to bring them into compliance with the Act. Slaughter-houses (3) and cowsheds and dairies (22) are, on the whole, well conducted. In several instances improvements at factories and workshops have been effected. Thirty-two privies and ashpits have been substituted by 35 w.c.'s and 3 pail closets. Nuisances abated amounted to 236, but only 17 statutory notices were required. Thirty-two smoke observations were taken.

Radcliffe.—(Area in acres, 3,098; Estimated Population, 25,500.) — *Medical Officer of Health*, WILLIAM GILL, L.R.C.P.; *Salary*, £60 (no claim).

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	25·2	...	28·7	...	27·8
Death-rate	17·3	...	17·7	...	17·9
Zymotic death-rate.....	1·76	...	1·41	...	2·60
Phthisis ,, 	0·86	...	1·22	..	1·02
Respiratory ,, 	3·45	...	3·66	...	3·92
Rate of deaths under 1 year to 1,000 births.....	150	...	157	...	187

A reduction in the birth-rate as compared with last year

of 3·5 per 1,000 of the population is accompanied by a fractional decline (0·4) in the death-rate. The former rate varied from 27·4 in Black Lane Ward, 25·7 Stand Lane Ward, 24·7 Radcliffe Bridge Ward, to 22·6 Radcliffe Hall Ward, and the death-rates of these wards were 16·6, 16·2, 20·3, and 15·2 respectively. The infant mortality is the lowest recorded for the district; no doubt the absence of summer heat has been a factor in producing the fall. Dr. Gill reports that with the increasing facilities for instruction in nursing, mothers are becoming more alive to their duties, and are more ready than formerly to supply their infants with food suitable for their age. Measles gave rise to 14 deaths, against 13 deaths in 1902, and diarrhœa caused 13 deaths, as compared with 5, 36, and 27 in the three preceding years. Only 1 death was ascribed to whooping cough. Sixteen cases of small-pox were notified, and all received hospital isolation; 1 death resulted. The cases were distributed over the whole district. It is pleasing to note that the Authority is now in a much better position to cope with this disease, being co-partners with neighbouring districts in Ainsworth hospital. Scarlet fever gave rise to 129 cases, as compared with 46 last year, 6 in 1901, and 151 in 1900. Five deaths occurred. The disease was generally of a mild type, and in some cases was not recognised until other persons had been infected. Typhoid fever contributed 25 cases 4 deaths, the greatest number of attacks occurring in Black Lane Ward. The Medical Officer of Health suggests that ventilating shafts to the sewers be more extensively employed, that the manholes be cleaned periodically and effectively, and, above all, that the water-carriage system be substituted, where at all possible, for the midden privies. He lays great stress on the last suggestion, as, in his opinion, the system mentioned is "as great a safeguard against enteric fever as vaccination is against small-pox." The remaining notifications were diphtheria 25 (7 fatal), erysipelas 47, and continued fever 1.

Hospital Accommodation.—By Provisional Order, dated

18th May, 1903, the Order of the County Council under "The Isolation Hospitals Act, 1893," dated 5th August, 1897, forming the districts of Radcliffe, Ramsbottom, Whitefield, and Bury (R.) into a joint hospital district was dissolved, and a united district under Section 279 of "The Public Health Act, 1875," was constituted, combining the above-mentioned districts and the County Borough of Bury for the provision, maintenance, and management of a hospital or hospitals for the reception of cases of infectious diseases. Of the cases removed to hospitals during the year, 5 small-pox patients were treated at Birtle and 11 at the temporary pavilion erected by the Joint Hospital Board at Ainsworth. Ten scarlet fever and 6 typhoid fever patients were removed to the Florence Nightingale hospital (Bury).

Disinfection.—No information given as to character of apparatus (if any). Two hundred and three houses were fumigated with sulphur.

Water Supply.—Some complaints have been made about the water, but alterations and improvements in the supply by the Joint Water Board are now being so rapidly and effectively proceeded with that in the near future "all causes of complaint will be effectually removed."

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. There are 1,280 untrapped street gullies, and complaints are often made as to the stench arising from these gullies, and also from open manhole covers. More ventilating shafts and a regular system of flushing and cleansing would, to some extent, remove the cause of complaint. The work of street scavenging has not given entire satisfaction, but is more systematically attended to than formerly.

Sanitary Inspection. — Bakehouses, slaughter-houses, lodging-houses, and dairies and cowsheds have been visited at irregular intervals, and where it was found that these places were not being kept in conformity with the bye-laws and

regulations the attention of the owner or occupier was drawn thereto. Factory and workshop examination revealed a number of structural defects, and on inspection of 45 canal boats 11 infringements of the Act were discovered. Fifty-five privy middens were converted to the water-carriage system, and many others were improved. The Inspector (Mr. Smith) gives details of the work accomplished in his department, which included the abatement of 1,148 nuisances. Smoke observations numbered 41. Form C. not supplied.

Rainford.—(Area in acres, 5,877; Estimated Population, 3,333.)—*Medical Officer of Health*, FRANK PROSSER, M.B.; *Salary*, £20.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.	
Birth-rate.....	33·6 ...	31·6 ...	29·7	
Death-rate	11·4 ...	14·3 ...	15·2	
Zymotic death-rate.....	0·60 ...	0·89 ...	1·58	
Phthisis ,,	1·20 ...	0·29 ...	1·11	
Respiratory ,,	2·40 ...	1·49 ...	2·72	
Rate of deaths under 1 year to 1,000 births.....	98 ...	113 ...	117	

As compared with the mean of the preceding ten years, the birth-rate shows an increase equal to 3·9 per 1,000 of the population, whilst there is a reduction of 3·8 in the death-rate. The former rate is the highest recorded since 1894, and the latter is the lowest. The zymotic and infant rates are also well below the average. Not a single death was due to measles, whooping cough, or diarrhœa. One case of small-pox was reported in May—a mild case: infection contracted in neighbouring district of Upholland. Seven cases of scarlet fever were notified; most of these occurred at Crank, and were probably imported from St. Helens. Typhoid fever contributed 8 cases 1 death, membranous croup 1 case (fatal), and erysipelas 3 cases.

Hospital Accommodation.—A cottage hospital (4 beds) is reserved for small-pox. The case above mentioned was isolated there.

Disinfection.—No apparatus; sulphur fumigation relied upon.

Water Supply good; obtained from St. Helens.

Scwcrage, Scavenging, &c.—Sewage is turned into a brook which runs into the River Mersey. Cesspools are in vogue. Scavenging has to be performed by occupiers of houses, consequently, is far from satisfactory.

Sanitary Inspection. — House-to-house inspection has resulted in many improvements being made. Bakehouses, the only slaughter-house, dairies, cowsheds, factories and workshops are, on the whole, in good condition. Nineteen notices were served for the abatement of nuisances, and many insanitary conditions were amended, on the verbal recommendation of the officials.

Ramsbottom.—(Area in acres, 6,424; Census Population, 15,920.)—*Medical Officer of Health*, WILLIAM DEANS, M.B.; *Salary*, £60.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	23·2	...	21·3	...	22·6
Death-rate	14·8	...	15·8	...	14·6
Zymotic death-rate.....	1·31	...	1·00	...	1·33
Phthisis ,, 	2·13	...	1·00	...	1·21
Respiratory ,, 	2·76	...	3·07	...	3·06
Rate of deaths under 1 year to 1,000 births.....	110	...	117	...	128

The statistics for the year under review vary but little from the averages of the 10 years 1893-1902. The birth and death rates are fractionally higher, while the zymotic and

infant rates show slight reductions. Measles, the cause of 10 deaths in 1902, did not give rise to a single fatality, but diarrhoea contributed 7 deaths and whooping cough 4 deaths, against 2 and 1 respectively in the previous year. Small-pox was responsible for 11 cases 1 death. The first outbreak occurred at Summerseat in February; 5 cases came under observation, and were promptly removed to hospital. One of the cases, of the confluent type, proved fatal. The next attack took place in June at Holcombe, and in July 1 case occurred at Shuttleworth, followed by 4 cases in September in Central Ward. The whole of the persons attacked received hospital isolation. The Summerseat and Shuttleworth cases were, no doubt, caused by personal contact with infected persons outside the district. Scarlet fever was accredited with 38 cases, typhoid fever 21 cases 4 deaths, diphtheria and membranous croup 15 cases 5 deaths, and erysipelas 3 cases. Holcombe school was closed on two occasions, owing to the outbreaks of small-pox and membranous croup.

Hospital Accommodation.—Arrangements have been made for the isolation of cases of infectious diseases, including small-pox, by the formation of the Bury, &c., Conjoint Board. For further details see summary for Radcliffe (page 163). The cases removed numbered 24, viz., small-pox 11, scarlet fever 7, and typhoid fever 6.

Disinfection.—No proper appliances. Infected houses are sprayed with a solution of formalin.

Water Supply is obtained mainly from the Bury and District Joint Board, and fewer complaints than usual have been received. The water at Summerseat has been considerably improved, both as regards quality and quantity.

Sewerage, Scavenging, &c.—The new sewage works are rapidly approaching completion. The main sewers have been much extended, and roads, streets, &c., have been extensively re-paved. Scavenging, undertaken by the Authority

in three wards, and by contract in one ward, has been carried out satisfactorily, with the exception of some of the outlying districts, such as Nuttall village and the roads in Summerseat. Refuse is at present disposed of on tips, but a continuance of this method is not recommended. A refuse destructor would be of great value.

Sanitary Inspection.—One house was condemned and closed, whilst another dilapidated house was demolished. Bakehouses, lodging-houses, and slaughter-houses received periodical inspections; in a few instances notices had to be served to remedy insanitary conditions. Several of the dairies and cowsheds have been considerably improved during the year, and at some of the factories and workshops the sanitary conveniences have been extended. Twenty privy middens were abolished, and 31 water closets substituted. The Inspector (Mr. Fort) wrote 151 letters and served 21 preliminary and 36 legal notices for the abatement of nuisances. Altogether 320 nuisances were remedied. Seven smoke observations were taken.

Rawtenstall (Borough).—(Area in acres, 9,535; Estimated Population, 31,250.)—*Medical Officer of Health*, R. SMITH, M.B., D.P.H.; *Salary*, £100.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	21·9 ...	22·5 ...	25·8
Death-rate	15·2 ...	14·1 ...	17·2
Zymotic death-rate.....	1·40 ...	0·64 ...	1·72
Phthisis ,,	0·95 ...	0·61 ...	1·09
Respiratory ,,	2·88 ...	3·30 ...	3·97
Rate of deaths under 1 year to 1,000 births.....	126 ...	137 ...	152

The health report for the year under review has been prepared by Mr. Councillor S. Compston, Chairman of the Health Committee, with the assistance of Dr. Edwards, owing to the

lamented death of Dr. Robert Smith on the 19th of February, 1904. The Chairman, in prefacing the report, says, in reference to the late Medical Officer of Health—"his clearness in recommendation, tact in dealing with people and general kindness, made him, together with his other qualifications, a most satisfactory public servant. Had Dr. Smith's life and health been continued he would, doubtless, have risen to some place of distinction in the country in public health service." It is remarkable that since the Incorporation of the Borough, 13 years ago, three Medical Officers of Health have died in the Borough's service.

The birth-rate—the lowest recorded—is 3·9 per 1,000 of the population below the mean of the preceding decade, whilst the general death-rate shows a reduction of 2·0 per 1,000. The zymotic and infant rates are also below the average. A rapidly spreading epidemic of measles appeared towards the close of the year, and in coping with the outbreak three schools had to be closed. Altogether 18 deaths were ascribed to this disease. Whooping cough contributed 11 deaths, and diarrhœa 4 deaths. After the 2 imported cases of small-pox, in November and December, 1902, there followed 17 cases in January, 8 in February, 5 in March, 2 in April, 3 in May, 1 in June, and 1 in September, total 37. One death occurred, that of a tramp, who brought the disease with him from elsewhere. As precautionary measures, prompt isolation in the borough small-pox hospital of every case, and re-vaccination and quarantining of every contact or suspect, were relied upon. The report says—"our experience of this and previous occurrences of small-pox in the borough again raised the tramp question, and the difficulty of dealing with this class of persons, over whom public authorities have so little control. The Town Council has joined other public bodies in urging that greater compulsory powers should be granted by legislation. But the prevention of the formation of a constantly and loosely moving army of drinking, indolent, and often infected men and

women throughout the country, is one of the chief national and social problems needing resolute attention everywhere. The cost of this class in poor-law and other public money, and the cost in social deterioration, and non-productiveness and destructiveness is very great year by year. One gratifying outcome of the epidemic was that a very large number of residents sought the protection which vaccination affords for many years, and another was the fact that none of the children exposed to small-pox, who had been vaccinated, contracted the disease, and the children (2) who did suffer were unvaccinated." Scarlet fever gave rise to 69 cases 1 death, typhoid fever 17 cases 5 deaths, diphtheria and membranous croup 20 cases 4 deaths, erysipelas 24 cases, and puerperal fever 4 cases. Reference is again made to the important part played by privy middens in the propagation of typhoid fever and diphtheria.

Hospital Accommodation.—A hospital of 22 beds is provided at Ridge for small-pox only. The 37 cases of small-pox were isolated there. As the original pavilion (14 beds) became full, the Council added another iron pavilion with accommodation for 8 beds. The total cost of the epidemic and the extension of the hospital was £634 12s. 5d.

Disinfection.—The steam apparatus at the hospital was used for disinfecting 1,255 articles. The following premises were fumigated with sulphur: schools 18, mills 2, and houses 101.

Water Supply.—"The public supply of the Bury and District Joint Water Board gave less reason for complaint than for several years back. The quantity was abundant and the quality generally good. The filtering beds at Clowbridge and Cloughbottom are nearing completion."

Sewerage, Scavenging, &c.—Sewage undergoes treatment at the joint outfall works of Haslingden, Bacup, and Rawtenstall, at Ewood Bridge, by the bacterial process. The Mersey

and Irwell Joint Committee on two occasions drew attention to unsatisfactory effluents. The Authority efficiently carry out scavenging. Since the opening of the sewage works a proportion of the excreta pail contents has been emptied into the main sewers during the night at specially prepared "chutes," plenty of flushing water and disinfectants being used. Other refuse is taken to the destructor.

Sanitary Inspection.—The bakehouses visited were mostly found in good condition, but some needed improvements which were effected. Slaughter-houses—38 in number—were "fairly satisfactory." The common lodging-houses received special attention on account of the prevalence of small-pox, and the keepers were served with notices to furnish daily returns of persons visiting their houses, in compliance with Section 83 of "The Public Health Act, 1875," Dairies and cowsheds, on the whole, comply with the requirements. Under "The Factory Act, 1901," premises have been inspected, and where improvements were required, they have been carried out. Several cases of suspected anthrax and swine fever were reported during the year. In each case a veterinary surgeon was called in, and where the suspicion was confirmed the carcasses of the animals were either buried in quick-lime or taken to the destructor. Considerable progress has been made with the conversion of pail closets to the water-carriage system, there having been during the past year 168 pail closets and 39 privies so converted. In March, 1904, there were about 1,662 slop-water closets and 374 fresh-water closets in the Borough; these figures include the w.c.'s in existence at the date of the last report, the conversions since, and those put in at the new houses built during the year. The Corporation for several years past have made an allowance to property owners of £2 for each "sanitary" closet converted, and £1 for each "insanitary" closet. The Inspector (Mr. Rawling) served 246 notices, and as a result secured the abatement of 567 nuisances. Six smoke observations were taken.

Rishton.—(Area in acres, 2,985; Estimated Population, 7,200.)—*Medical Officer of Health*, JOHN BARR, M.D.; *Salary*, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	23·3 ...	25·7 ...	26·5
Death-rate	13·1 ...	12·3 ...	13·6
Zymotic death-rate.....	1·52 ...	1·40 ...	1·97
Phthisis ,,	0·97 ...	0·98 ...	0·92
Respiratory ,,	1·38 ...	1·40 ...	2·37
Rate of deaths under 1 year to 1,000 births.....	125 ...	142 ...	156

A decline in the birth-rate as compared with last year, equal to 2·4 per 1,000, is accompanied by an increase in the death-rate of 0·8. The zymotic rate is slightly higher, the main factor in the increase being 7 deaths from measles, against none in the previous year. This disease was very prevalent during February and March. Dr. Barr recommends that measles be placed on the list of notifiable diseases, as it has caused almost twice as many deaths during the year as all the other infectious diseases combined. There was only 1 death from diarrhœa; “this gives ground for belief that mothers are now giving more attention to the proper feeding of their infants.” Scarlet fever contributed 34 cases, typhoid fever 22 cases 1 death, diphtheria and membranous croup 9 cases 1 death, erysipelas 7 cases, continued fever 8 cases 1 death, and puerperal fever 1 case.

Hospital Accommodation nil. By arrangement 1 case of typhoid fever was removed to the Blackburn Corporation hospital.

Disinfection.—No apparatus.

Water Supply, from Dean reservoir, copious, good, and pure.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and irrigation. Plans have been prepared for extension of the sewage works. Scavenging is carried out by contract.

Sanitary Inspection.—Every part of the district has been inspected at “frequent intervals.” No serious cause for complaint was discovered on examination of bakehouses, slaughter-houses, dairies and cowsheds, and factories and workshops. The Inspector served 20 notices for nuisance abatement.

Royton.—(Area in acres, 2,145; Estimated Population, 15,200.)—*Medical Officer of Health*, RALPH YOUNG, M.D.; *Salary*, £50.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	23·8 ...	27·6 ...	27·2
Death-rate	18·0 ...	18·2 ...	18·6
Zymotic death-rate.....	1·11 ...	1·46 ...	2·21
Phthisis ,, 	1·38 ...	0·93 ...	1·40
Respiratory ,, 	3·81 ...	3·85 ...	4·25
Rate of deaths under 1 year to 1,000 births	132 ...	153 ...	168

Dr. Young presents mortality statistics which, on the whole, are rather more favourable than those of 1902. The zymotic rate is lower than in any year since 1894, and the infantile mortality is the lowest recorded. The birth-rate, showing a reduction of 3·8 per 1,000, was the lowest recorded during the past 10 years. Whooping cough caused 4 deaths, diarrhoea 2 deaths, and measles 1 death; last year the fatalities were nil, 4, and 10 respectively. Small-pox gave rise to 15 cases 1 death. The first case occurred in the middle of January, and the district did become entirely free, except for very short intervals, until October. Dr. Young says “there is no doubt that the casual wards of the Union

formed the nucleus of the epidemic, and the disease did not disappear from that quarter until after the energetic adoption of vaccination." The whole of the small-pox cases notified were removed to hospital. Scarlet fever, the cause of 75 cases 4 deaths, was most prevalent during the first and last quarters of the year. Many of the attacks were of a mild nature, and this, very probably, assisted in the spread of the disease. Diphtheria and membranous croup contributed 9 cases 4 deaths, typhoid fever 1 case (fatal), erysipelas 9 cases, and continued fever 1 case.

Hospital Accommodation.—Small-pox cases are isolated at the joint hospital at Cinder Hill, and other infectious cases are treated at the Oldham Corporation hospital at West Hulme, by arrangement, the terms for treatment and maintenance being 6s. per day per patient. The 15 cases of small-pox and 5 of scarlet fever were removed during the year.

Disinfection.—Steam apparatus at Oldham is available. Seventy-nine houses and 5 schools were fumigated.

Water Supply good; drawn from the Oldham Corporation mains.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. Extensions and improvements at the outfall works are nearing completion. Scavenging, as carried out by the Authority, is described as "fairly satisfactory."

Sanitary Inspection.—The housing accommodation, which has been referred to in previous reports as being hardly adequate, has been considerably augmented during the year by the erection of new houses. One dilapidated house was condemned. The general sanitary condition of bakehouses—44 in number—was found to be good, and all were very clean. One underground bakehouse was abolished as not complying with the requirements of the Act. Slaughter-houses are fairly well kept. One carcase of unsound meat, weighing 616 lbs.,

was seized on unlicensed premises, and the owner fined £10 and costs. Dairies and cowsheds (36) were specially inspected; defects of drainage were noted in 17. Under the Factory Act it was only necessary to issue 1 notice. Nuisances abated amounted to 235.

St. Annes-on-the-Sea.—(Area in acres, 3,342; Estimated Population, 8,207.) — *Medical Officer of Health*, FRED BOOTH, M.D.; *Salary*, £80.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	18·3 ...	14·9 ...	18·6
Death-rate	10·4 ...	10·3 ...	9·8
Zymotic death-rate.....	0·24 ...	0·63 ...	0·65
Phthisis ,,	0·60 ...	1·38 ...	0·86
Respiratory ,, 	1·21 ...	1·26 ...	1·63
Rate of deaths under 1 year to 1,000 births.....	66 ...	59 ...	122

The birth-rate is higher than for two years past, and the mortality statistics are again satisfactory. Excluding the deaths of 14 visitors, the death-rate was 8·8 per 1,000, against 9·3 last year. The district was remarkably free from measles, but whooping cough prevailed during the earlier months to a considerable extent, but no death was recorded. Diarrhœa and diphtheria each caused 1 death. Small-pox gave rise to 3 cases. The first was due to personal contact with a small-pox case at Salford—thought at the time to be eczema—and the second and third cases were the mother and grandmother of two children who had attended a school at South Shore, Blackpool, where the headmaster was found to be suffering from small-pox. The latter two patients, although warned of the danger, and advised—though they had not themselves been in contact with the disease—to have the whole of their household re-vaccinated, contented themselves with only having the children done; the consequence was

that, though the latter escaped, they contracted the disease, which was probably conveyed through some exercise books, which had been examined by the master before the nature of the disease was ascertained. Scarlet fever cases—31 in number—were scattered throughout the year. Typhoid fever contributed 3 cases, diphtheria 4, and erysipelas 2. The voluntary notification of phthisis is recommended.

Hospital Accommodation is available at Elswick for small-pox, and at Moss Side (Fylde) for other infectious diseases. The cases removed during 1903 were: small-pox 3, scarlet fever 23, typhoid fever 3, and diphtheria 3.

Disinfection.—The steam apparatus was used for disinfecting 1,463 articles, and 126 rooms were fumigated by formaldehyde vapour.

Water Supply is obtained—with the exception of a few outlying farms—from the reservoirs of the Fylde Water Board. It is soft moorland water, free from injurious matter, but is insufficiently filtered.

Sewerage, Scavenging, &c.—Sewage is discharged by gravitation into the sea without any previous treatment. A considerable length of new main sewer was laid during the year. Scavenging, although performed by the Authority, is not quite satisfactory. A refuse destructor is in operation.

Sanitary Inspection.—All the bakehouses are “clean and in sanitary condition.” Private slaughter-houses are far from suitable for the purpose of preparing food, owing to the difficult and almost impossible task of thoroughly cleansing the walls and floors after slaughtering. The public abattoir will be ready for use shortly. Regular inspection of the farms, dairies, and milkshops, under the Order of 1895 has been carried on during the year, and those provisions of the Act, with regard to cleanliness and linewashing, have been attended to. Workshops have been examined, and sanitary

defects, such as untrapped waste pipes, dirty walls, &c., have been pointed out. The conversion of common privies, many of which are still to be found about the district, and are undoubtedly a nuisance and danger, has not, in spite of the endeavours of the sanitary officials, and the inducement of the Council by giving £2 towards the cost of alteration, made that progress which one could have desired, only 7 having been converted during the year. The Inspector (Mr. Proctor) served 310 preliminary and 44 legal notices for the abatement of nuisances.

Skelmersdale.—(Area in acres, 1,942; Estimated Population, 6,200.)—*Medical Officer of Health*, VINCENT O'REILLY, M.B.; *Salary*, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	36·7 ...	40·5 ...	35·2
Death-rate	20·0 ...	20·1 ...	18·4
Zymotic death-rate.....	2·41 ...	1·16 ...	1·05
Phthisis ,,	0·96 ...	1·33 ...	0·91
Respiratory ,,	3·70 ...	4·16 ...	5·61
Rate of deaths under 1 year to 1,000 births.....	236 ...	119 ...	155

The mortality statistics presented by Dr. O'Reilly cannot be considered at all satisfactory. The general death-rate is well above the average of the County urban districts, the zymotic rate is higher than in any year during the past decade, and the infantile mortality—also the highest recorded—is excessive. Injudicious feeding and prematurity are ascribed as the chief causes in the high infant rate. Whooping cough, prevalent in the spring and autumn, caused 6 deaths, and 4 deaths were ascribed to diarrhœa. Scarlet fever gave rise to only 7 cases, against 26 in 1902. Typhoid fever was responsible for 16 cases 2 deaths, and diphtheria—associated with membranous croup—11 cases 3 deaths; in nearly all

these cases some defects of drainage were found, and two of the typhoid fever cases were ascribed to the drinking of polluted well water. The other notifications were erysipelas 3, and puerperal fever 5.

Hospital Accommodation.—A small cottage, with four beds, is reserved for small-pox.

Disinfection.—No apparatus.

Water Supply good, obtained from an Artesian well.

Sewerage, Scavenging, &c.—Sewage is treated at two outfall works—Skelmersdale main works and at Pennyland—by settlement and irrigation. The main sewers have been considerably extended. Scavenging, in the hands of the Authority, is now carried out more satisfactorily than formerly.

Sanitary Inspection.—Two houses were condemned, and the necessary alterations to make them fit for habitation have been carried out. Bakehouses, slaughter-houses, and cowsheds are described as good; the latter are not subject to regulations. The Inspector (Mr. Corns) served 99 notices for nuisance abatement. One smoke nuisance was abated.

Southport (Borough).—(Area in acres, 5,144; Estimated Population, 49,669.)—*Medical Officer of Health*, JOHN J. WEAVER, M.R.C.S., D.P.H.; *Salary*, £475.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	18·2	...	19·4	...	20·5
Death-rate	14·3	...	15·3	...	14·5
Zymotic death-rate.....	0·94	...	0·63	...	0·99
Phthisis ,, 	0·74	...	0·82	...	1·11
Respiratory ,, 	1·89	...	2·37	...	2·27
Rate of deaths under 1 year to 1,000 births.....	137	...	143	...	145

The population on which the mortality statistics for the

year under review are calculated is that given by the Registrar-General as his estimate to the middle of the year, viz., 49,669. Assuming the proportion of males and females in the population to remain the same as at the Census, the figures show an excess of females over males of 8,663, the relative proportion being 142 to 100. The birth-rate was 1·2 per 1,000 less than last year, and is the lowest ever recorded in the Borough. The total deaths registered in the district amounted to 718, giving a gross death-rate of 14·45 per 1,000, but this requires correcting by the subtraction of 29 deaths of non-residents registered in public institutions in the district, and the addition of 25 deaths of residents of Southport registered in public institutions outside the Borough. The corrected death-rate thus equals 14·37 per 1,000, as compared with 15·3 in the preceding year. If the deaths of 85 visitors who came into the town in a more or less moribund condition were deducted, the "local" death-rate would be 13·25 per 1,000. The average length of stay of these visitors was about 59 days from the date of arrival, and varied from just under 12 months, the longest period of residence of any of these visitors before death, to one day in other cases. The zymotic rate showed an increase as compared with last year, but was below the mean of the preceding decade. The number of infants who died in the Borough under one year of age in 1903 was 124, which is equivalent to a rate of 137 deaths per 1,000 registered births. This is a slight improvement on the rate for the previous year of 143 per 1,000, but is "still higher than it should be." In the hope of reducing this rate at the end of the previous year and during the whole of 1903 pamphlets containing instructions on the care and feeding of infants have been issued by the Medical Officer of Health, and sent to every house where a birth had taken place. Throughout the year measles and whooping cough prevailed more or less epidemically; of measles there were 846 notifications and 12 deaths, and of whooping cough 537 notifications and 13 deaths. On account of the prevalence of

the first-mentioned disease 12 schools were closed. Chicken-pox—also notifiable—caused 194 cases, but no death. Diarrhœa contributed 5 deaths, against 6 last year, and 30 in 1901. On March 19th, a patient suffering from small-pox was admitted into the small-pox hospital. The patient, an inhabitant of Southport, had contracted the disease a fortnight before through visiting Liverpool in the ordinary pursuit of his business. Two days after his return from Liverpool he had infected, probably through his clothing, another household—that of a barber not far from his own dwelling. The wife of the barber showed signs of small-pox two days after the first appearance of the disease in the first patient, and she developed the disease in so virulent a form that she died within about 24 hours after the first appearance of the characteristic eruption. To infection taken from the same barber's premises, two other cases were traced, one being removed to hospital on March 21st, and the 2nd on April 4th, just a fortnight after a visit to the barber's shop. The barber's shop was immediately closed on the existence of the disease being known. In addition to the above 4 cases, 5 others subsequently appeared, 2 of them being clearly imported from towns where the disease at the time existed, and 3 were inhabitants of Southport, in whom the source of the disease could not be traced. Prompt measures of isolation of the patients, and re-vaccination of all contacts, were immediately carried out, in all these cases, to prevent the further spread of the disease, and it is satisfactory to be able to report that every assistance was given by the people themselves living in the district. Two or three persons offered the use of their houses for temporary stations for re-vaccination, and within a few days of the appearance of the first case of the disease several hundred people had voluntarily availed themselves of the protection of vaccination or re-vaccination. With such cordial assistance the disease was, within a short time, stamped out, to the very great advantage of the town. Scarlet

fever was somewhat more prevalent in 1903 than in the previous year, there being 162 cases notified, as compared with 131 in 1902—7 deaths were recorded, against 3 in the previous year. The number of cases of diphtheria notified was 23, which is lower than the average of the previous 10 years; 2 cases were fatal. The cold and wet summer, and an improved system of sewer ventilation, have probably had their respective shares in the improvement in the figures for this and the following disease. Enteric fever caused 21 cases, considerably below the average of 39 for the previous 10 years. Of these 21 cases 7 were fatal. The remaining notifications were erysipelas 39 and puerperal fever 3. Although the voluntary notification of phthisis was adopted in September, 1901, very little use has been made of it by the medical profession; only 5 cases were reported during 1903.

Hospital Accommodation.—No change has been made in the structural arrangements of the infectious disease hospital. The special pavilion erected for and maintained by the private schools, though kept in constant readiness, has, fortunately, not been required by them. At the present time, including 12 beds in a separate pavilion for small-pox, and excluding the private pavilion referred to, there is accommodation for 48 patients. The total number of cases removed to hospital was 147, viz., small-pox 8, scarlet fever 121, typhoid fever 11, diphtheria 2, chicken-pox 2, and "doubtful" 3.

Disinfection. — Washington Lyon's steam apparatus available. Houses fumigated with sulphurous acid gas or formalin numbered 219.

Water Supply is obtained from deep wells near Ormskirk, belonging to the Southport, Birkdale, and West Lancashire Water Board, and is, though rather hard, of exceptional purity, and practically unlimited in quantity. The hardness is principally due to carbonate of lime, and is removed to a considerable extent by boiling.

Sewerage, Scavenging, &c.—Drainage is by gravitation into the sea, the sewer outlet—which causes a nuisance—being at Crossens, about three miles to the north of the town. Steam pumping is being made use of to a small extent at the outlet, and small experimental bacterial filter beds have also been recently put down. Examination of house drains are now carried out by the Authority at a nominal charge of from five to ten shillings per house. The sewers are ventilated by Webb's patent ventilating lamps, and these appear to have worked satisfactorily. Scavenging is efficiently performed by the Corporation's workmen, refuse being taken to the destructor.

Sanitary Inspection.—A regular house-to-house inspection of the whole borough was commenced during the year, and is being carried out as quickly as other important sanitary work will allow. So far no very serious sanitary defects have been discovered, but many minor matters, such as badly-paved yards, defective slop-wastes, &c., have been brought to light, and have received or are receiving attention. The inspection is being continued with as much expedition as is possible. One house was condemned as unfit for human habitation. Bake-houses are in good order. Of the 18 underground bakehouses 7 have been altered to comply with the Authority's requirements, 4 required no alterations, and the remaining 7 have been abolished. The five private slaughter-houses and the public slaughter-house at Blowick have been regularly visited. Dairies, cowsheds, and milkshops were kept under strict supervision, and the condition of all milk-supplying cows looked to both in the borough, and, by virtue of powers obtaining in the Southport Corporation Act of 1900, outside the borough. Twenty-two samples of milk were examined bacteriologically, and three were found to be tubercular. Under the Food and Drugs Act 66 samples of milk and 41 samples of other articles were examined. The premises coming under the Factory and Workshop Act were periodically visited.

The amount of sanitary work accomplished is shown by the undermentioned items extracted from the report:—

Nuisances reported to Health Committee	1,340
Nuisance inspections not reported to Health Committee.....	14,818
Visits to workshops (and reports)	376
,, bakehouses (and reports)	264
,, laundries	4
,, dairies, cowsheds, and milkshops	364
,, common lodging-houses.....	1,676
Visits under Shop Hours Act	111
Visits in connection with offensive trades.	4
Notices served	1,208
Houses without proper water supply reported	4
Smoke prevention observations	3
Enquiries into notifications of infectious diseases	1,544
Visits to ice cream vendors	39
,, piggeries	120
Inspection of house drains	531
Houses re-drained	43
House drains unstopped	636
Midden privies converted into w.c.'s	42
Wet ashpits converted into dry	24
Sundry structural nuisances abated	729
Drains smoke tested	369
Houses disinfected.....	219
Removal of cases to hospital	147
Samples of sewage taken	6
House examined and reported as unfit for human habitation	1
Sundry certificates issued.....	11
Samples taken under the Sale of Food and Drugs Acts	107

Standish-with-Langtree.—(Area in acres, 3,266 ; Estimated Population, 6,502.)—*Medical Officer of Health, J. H. WILSON, M.D. ; Salary, £35.*

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	34·1 ...	41·1 ...	38·0
Death-rate	13·9 ...	17·7 ...	19·8
Zymotic death-rate... ..	1·53 ...	2·02 ...	3·09
Phthisis ,,	nil ...	0·93 ...	0·94
Respiratory ,,	2·61 ...	3·27 ...	4·35
Rate of deaths under 1 year to 1,000 births.....	144 ...	136 ...	186

The statistics for the year under review are marked by decreases in the birth and death rates as compared with 1902, equal to 7·0 and 3·8 per 1,000 of the population respectively. The zymotic rate is the lowest for 10 years, and the infantile mortality is also more satisfactory than in any previous year excepting 1902. Measles—notifiable in this district—only caused 8 cases 3 deaths as compared with 224 cases 6 deaths in the preceding year. Whooping cough and diarrhoea each contributed 1 death. Scarlet fever was prevalent in January and February, but the spread was not so extensive as last year. Altogether 86 cases occurred with 4 deaths, against 124 cases 2 deaths in 1902. Diphtheria was the cause of 7 cases, and erysipelas 15 cases.

Hospital Accommodation.—The only provision is a cottage (6 beds) reserved for small-pox. A joint small-pox hospital scheme for this and neighbouring districts is in progress.

Disinfection.—No apparatus ; sulphur fumigation relied upon.

Water Supply constant and of excellent quality ; obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is treated by settlement, irrigation, and single contact. Scavenging is efficiently performed, partly by the Authority and partly by contract.

Sanitary Inspection.—One house was closed as unfit for human habitation. Bakehouses, slaughter-houses, and lodging-houses are described as clean and well kept, and the majority of dairies and cowsheds are in good condition. The Inspector (Mr. Shephard) served 48 notices for nuisance abatement.

Stretford.—(Area in acres, 3,240 ; Estimated Population, 32,290). — *Medical Officer of Health*, W. J. HESLOP, F.R.C.S., Ed. ; *Salary*, £150.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	24·9 ...	21·6 ...	21·3
Death-rate	13·5 ...	12·9 ...	14·1
Zymotic death-rate..	0·96 ...	1·16 ...	1·44
Phthisis ,,	0·77 ...	1·00 ...	1·12
Respiratory ,,	2·10 ...	2·42 ...	2·58
Rate of deaths under 1 year to 1,000 births.....	109 ...	132 ...	151

The birth-rate for the year under report—the highest recorded during the last 10 years—is 3·3 per 1,000 above the rate for 1902. The general death-rate, slightly in excess of last year's rate, is below the average, whilst the zymotic and infant rates are the lowest recorded for the district. The following table gives the rates, &c., for the various sub-districts :—

Ward.	Persons per acre.	Birth- rate.	Death- rate.	Zymotic rate.
Stretford	4·6 ...	24·5 ...	15·8 ...	1·0
Longford	6·0 ...	27·0 ...	12·4 ...	0·7
Talbot	3·7 ...	38·2 ...	14·6 ...	1·4
Trafford.....	32·0 ...	21·6 ...	11·0 ...	0·7
Cornbrook.....	23·2 ...	19·3 ...	13·7 ...	1·7
Clifford	114·3 ...	22·5 ...	13·9 ...	1·1

Measles and whooping cough each contributed 6 deaths, and diarrhoea 3 deaths. Thirteen cases of small-pox were notified, and all were promptly removed to hospital, where 1 died. The source of infection could not be traced, but all the cases evidently had a common origin, as the persons attacked were employed at the works of a large manufacturing company. Over 3,000 of the employees at these works were re-vaccinated. Scarlet fever was responsible for 89 cases 4 deaths, diphtheria 37 cases 6 deaths, typhoid fever 14 cases 5 deaths, erysipelas 22 cases, continued fever 2 cases, and puerperal fever 1 case. Twenty-six bacteriological examinations were made, viz., diphtheria 7, typhoid fever 10, and sputum 9; only one specimen of alleged diphtheria gave a positive result, of the typhoid fever cases there were 2 positive results, and of the 9 samples of sputum 4 proved to be tuberculous.

Hospital Accommodation is provided at the Ladywell sanatorium (Salford), and 85 cases were removed, viz., small-pox 13, scarlet fever 49, typhoid fever 5, diphtheria 17, and continued fever 1.

Disinfection.—The Washington Lyon's steam apparatus was used for the disinfection of 1,544 articles, and 236 houses and 59 schools were fumigated with sulphur.

Water Supply good; obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—"The sewage farm continues satisfactory." Thirty-two ventilating shafts to the sewers have been erected during the year. Fewer complaints than usual have been received in respect of the obnoxious effluvia arising from the Withington sewage works. Scavenging is efficiently performed by the Council's employees. A refuse destructor is provided.

Sanitary Inspection.—A scheme for the erection of 114 dwellings for the poorer portion of the working class has

been formulated, and application made to borrow money for that purpose. Three houses unfit for human habitation were closed. There are 23 bakehouses in the district, to which 171 visits were paid. Ten are cellar bakehouses, and as the result of action taken by the officials six were closed, and at the other four such alterations have been made as to merit the approval of the Sanitary Committee. Slaughter-houses (7) taken on the whole are fairly good as regards structural conditions. Dr. Heslop strongly recommends the provision of a public abattoir. Dairies and cowsheds, factories, workshops, &c., are frequently visited, and every effort is made to keep them in a satisfactory condition. Two hundred and twenty-six privies and 123 ashpits have been replaced by 280 pedestal water closets and dry ash receptacles or galvanised dust bins. The Inspector (Mr. Nuttall) reports that there are 387 double and 293 single wet ashpits, and of these 305 double and 149 single are in such a condition that they ought to be converted into water closets. Details are given of the sanitary work accomplished. Notices served for nuisance abatement amounted to 240. Ninety-seven smoke observations were taken; in five instances legal proceedings followed, and fines, amounting to £12 2s. 6d., were inflicted.

Swinton and Pendlebury.—(Area in acres, 2,212; Estimated Population, 28,000.)—*Medical Officer of Health*, SAMUEL HOSEGOOD, M.R.C.S.; *Salary*, £90.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	32·9	...	33·9	...	31·9
Death-rate	16·6	...	18·6	...	19·5
Zymotic death-rate.....	1·67	...	3·45	...	3·43
Phthisis „	0·82	...	0·66	...	0·79
Respiratory „	4·0	...	4·96	...	4·56
Rate of deaths under 1 year to 1,000 births.....	156	...	146	...	189

The population of Swinton is estimated at 15,300 and

Pendlebury 12,700, the former having a birth-rate of 31·11 and the latter 35·11, or 32·9 for the whole district. The total death-rate showed a reduction of 2 as compared with the previous year, Swinton being equal to 15·29 per thousand and Pendlebury 18·34. The former had an infant rate of 115·5 against 199·5 in the latter portion of the district. It is satisfactory to observe that the zymotic rate was less than half the average of the previous decade. Small-pox came into the district during the construction of the tramlines, and 6 cases broke out. Stringent efforts were successfully made by means of hospital isolation, quarantine, vaccination, &c., to stop the progress of the disease. Scarlet fever gave rise to 298 cases and 8 deaths; of these only 26 cases received hospital isolation. The largest proportion of cases occurred in West, East, and North Wards with 93, 86, and 74 cases respectively. There was a gratifying reduction in the attacks from diphtheria and membranous croup, 82 cases 11 deaths coming under notice against 225 cases with 35 deaths in the previous year. Measles occasioned 6 deaths, whooping cough 1 death, and enteric fever 33 cases 6 deaths. Diarrhœa was the cause of only 15 deaths, the lowest number recorded since 1898. Dr. Hosegood believes that, owing to the years 1902-3 not having in a general sense typical summers, it has proved a great blessing, not only in this but most other districts, so far as the great mortality from diarrhœa is concerned.

Hospital Accommodation.—By arrangement with the Salford Corporation cases of ordinary infectious diseases are removed to the Ladywell sanatorium. Small-pox cases are removed to the new hospital (12 beds) at Linnyshaw Moss, provided jointly by Worsley and Swinton and Pendlebury. During the year 40 cases received hospital isolation, viz., small-pox 6, diphtheria 5, scarlet fever 26, and typhoid fever 3.

Disinfection.—The district is not provided with a separate disinfecting apparatus. Reliance is placed on the steam

disinfectant at the Ladywell sanatorium. Sulphur fumigation is carried out in respect of infected rooms, &c.

Water Supply good, from Manchester Corporation.

Sewerage, Scavenging, &c.—New tanks and contact beds have been brought into operation. The latter comprise 10 first contact and 9 second contact beds. “As the result of these additional works there is a very marked improvement in the condition of the stream into which the effluent is discharged.” Scavenging is satisfactorily carried out.

Sanitary Inspection.—Reference is made to the conversion of 185 privy middens to water closets in relation to the reduction of infectious disease, as well as to the improvement of health likely to follow the “vigorous action in regard to the condition of streets, dwellings, and back passages.” Great attention was paid to the testing and examination of house drains; of 961 examined 670 were found to be defective. It is reported that the dairies, cowsheds, and milkshops have been regularly inspected, and their condition has been found to be good, except in a few instances. Limewashing, ventilation, water supply, and condition of flooring are some of the chief points to which attention has been directed. Slaughterhouses—18 in number—have come under observation, and due legal notices were served for alteration of flooring and drainage. Inspections under the Factory and Workshop Act, 1901, have been carried out, and it is reported that “a very large proportion of the investigation under the Act has reference to retail bakehouses, and as regards underground bakehouses the Council has during the past year taken very active steps towards having them placed in a satisfactory condition, or, in default of this, will refuse under the regulations to allow them to be registered.” The Inspector (Mr. Bleakley) reports the service of 215 legal notices, not one of which required further proceedings. Altogether 1,573 miscellaneous nuisances were dealt with, and 71 observations were made of smoke sent out

from chimneys of the various collieries and manufactories within and adjacent to the district.

Thornton.—(Area in acres, 2,996; Estimated Population, 3,517.)—*Medical Officer of Health*, F. S. RHODES, M.R.C.S.; *Salary*, £30.

Per 1,000 of Population.	1903.	1902.	Mean of 3 years, 1900-1902.
Birth-rate	33·5 ...	37·7 ...	33·3
Death-rate	14·7 ...	12·8 ...	13·1
Zymotic death-rate... ..	1·13 ...	1·14 ...	1·65
Phthisis ,,	0·28 ...	nil ...	0·10
Respiratory ,,	1·70 ...	2·29 ...	1·97
Rate of deaths under 1 year to 1,000 births..... ..	135 ...	106 ...	138

A decrease of 4·2 per 1,000 of the population in the birth-rate, as compared with last year, is accompanied by an increase in the general death-rate of 1·9. The zymotic rate is almost identical, but the rate of deaths under 1 year to 1,000 births rose from 106 to 135. Measles was very prevalent in all parts of the district during April, May, and June, and in consequence all the schools were closed. This disease, fortunately, is notifiable, and the officials were, therefore, better able to cope with the outbreak. No less than 359 cases were reported, and 4 deaths took place. Scarlet fever was the cause of 6 cases, typhoid fever 1 case (imported), diphtheria 2 cases (both attributed to defective drains and insanitary surroundings), and erysipelas 4 cases.

Hospital Accommodation is available at the joint hospital at Moss Side (Fylde). Four scarlet fever cases were removed.

Disinfection.—No apparatus; sulphur fumigation relied upon.

Water Supply is obtained mainly from the Fylde Water

Board. The Little Thornton district (Stanah) is—as reported for several years—still in want of an efficient supply.

Sewerage, Scavenging, &c.—At present, sewage flows into ditches and dykes, but a sewage scheme is being carried out with an outfall into the sea at Cleveleys. Since September scavenging has been carried out by the Authority, and is now much more satisfactorily performed than formerly.

Sanitary Inspection.—Bakehouses are described as “satisfactory,” and slaughter-houses as “fair.” Dairies and cowsheds, on the whole, are well kept, but improvements will no doubt be effected shortly, as regulations will soon be put into operation. Inspections under the Factory Act are regularly carried out. The Inspector (Mr. Fenton) reports on 801 examinations of premises. Fourteen notices were served, and nuisances abated amounted to 70. Smoke observations are taken “constantly.”

Tottington.—(Area in acres, 2,543 ; Estimated Population, 6,300.)—*Medical Officer of Health*, A. H. POOLE, L.R.C.P.E. ; *Salary*, £40.

Per 1,000 of Population.	1903.		1902.		Mean of 4 years, 1899-1902.
Birth-rate	16·6	...	17·9	...	21·0
Death-rate	14·1	...	12·4	...	14·4
Zymotic death-rate.....	1·90	...	0·49	...	1·14
Phthisis ,,	0·47	...	1·47	...	1·03
Respiratory ,,	3·33	...	3·26	...	3·61
Rate of deaths under 1 year to 1,000 births.....	57	...	100	...	105

The birth-rate and the infant rate for the year under review are the lowest obtained since the formation of the district five years ago. The death-rate is slightly below the average, but is 1·7 per 1,000 above the rate for 1902. A number of cases of measles—mostly sporadic—occurred, but only

2 deaths were due to this disease. Diarrhœa caused 3 fatalities. Small-pox gave rise to 9 cases 1 death. The disease first appeared in March, a navvy, a resident of Bury, who was engaged on sewerage operations in this district. His illness was reported, and on investigation Dr. Poole found the man had gone to his lodgings at Bury. Here he was found to be suffering from small-pox, and the Bury officials were notified. No further outbreak from this source was reported. In April a case was reported in the district, and was promptly isolated in hospital. All contacts were re-vaccinated, the infected bedding destroyed, &c. No further outbreak took place until July, when eight notifications were received. All the persons attacked were found to have been in contact with a child who was supposed to be suffering from chicken-pox. Prompt removal to hospital took place, and other precautionary measures adopted, including closure of two schools. The Medical Officer of Health recommends the compulsory notification of chicken-pox in order to prevent a repetition of the experience above mentioned. Scarlet fever was responsible for 37 cases 4 deaths. The majority of the attacks were of a mild character, and no doubt others of a similar nature occurred, and the disease was not recognised. Typhoid fever contributed 2 cases 1 death, typhus fever 1 case, and membranous croup 1 case (fatal).

Hospital Accommodation.—Tottington is amalgamated with Radcliffe and other neighbouring districts as regards hospital accommodation. The whole of the small-pox cases—9 in number—were removed to Ainsworth, and 9 cases were treated in the Florence Nightingale hospital at Bury, viz., scarlet fever 7, typhoid fever 1, and membranous croup 1.

Disinfection.—Clothing is disinfected—by arrangement—at Bury. Thirty-six houses were disinfected by formalin.

Water Supply is obtained from the Bury Joint Board. Complaints were, at times, made of scarcity of water in the

Hawkshaw district, and the attention of the Board was drawn thereto.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. Scavenging—now performed by the Authority—is better than formerly.

Sanitary Inspection.—Bakehouses appear to be “free from sanitary defects,” and slaughter-houses are well kept. Dairies and cowsheds have been improved as regards such matters as drainage and cleanliness. The Inspector (Mr. Kenyon) served 10 notices, secured the abatement of 29 nuisances, took 6 smoke observations, &c.

Trawden.—(Area in acres, 6,815; Estimated Population, 2,750.)—*Medical Officer of Health*, GEORGE SKEEN, M.B.; *Salary*, £20.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	27·2	21·2	29·1
Death-rate	12·3	11·7	16·7
Zymotic death-rate...	0·72	1·46	1·51
Phthisis ,, 	0·72	0·73	1·19
Respiratory ,, 	4·36	1·83	3·58
Rate of deaths under 1 year to 1,000 births	53	86	162

The birth-rate, although below the mean of the 10 years 1893-1902, is the highest recorded since 1898, and 6·0 per 1,000 above last year's rate. The death-rate shows a slight increase on the rate of 1902, but the zymotic and infant rates are more favourable. Only 2 deaths were due to the principal zymotic diseases, viz., scarlet fever and typhoid fever 1 each. Twenty-one notifications were received, of which scarlet fever contributed 15, typhoid fever 3, and erysipelas 3.

Hospital Accommodation nil. If small-pox breaks out the cases can be removed to Colne by arrangement.

Disinfection.—No apparatus.

Water Supply.—Quality good, but apt to become short in quantity in summer. Boring operations are being carried out, and there is every appearance that an ample supply will soon be forthcoming.

Sewerage, Scavenging, &c.—Sewage is treated in settling tanks and on three acres of irrigation land. An agreement has been made with Colne for the treatment of sewage from the Cotton Tree district. Scavenging is efficiently performed by the contractors.

Sanitary Inspection.—Dairies and cowsheds—not subject to regulations—are “not as good as they should be.” At the factories and workshops the closet accommodation is deficient, and they are lacking in cleanliness. Bakehouses and slaughter-houses appear to be in good order. Only 10 notices were required for nuisance abatement.

Turton.—(Area in acres, 17,335; Estimated Population, 12,452.)—*Medical Officer of Health*, JAMES ROBINSON, M.D., L.S.Sc.; *Salary*, £60.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.. .. .	20·3	...	22·3	...	21·8
Death-rate	13·0	...	13·2	...	13·3
Zymotic death-rate.....	1·12	...	1·61	...	1·13
Phthisis ,, .	0·80	...	0·32	...	1·04
Respiratory ,, .	2·48	...	2·82	...	2·91
Rate of deaths under 1 year					
to 1,000 births.....	55	...	72	...	123

The birth-rate shows a decline of 2 per 1,000 of the population as compared with last year, and, with the exception of 1900, is the lowest recorded during the past 10 years. The general death-rate declined fractionally, and there was a diminution in the zymotic and infant rates, the latter being the

lowest recorded for the district. The birth-rates in the various sub-divisions were as follows:—Turton 20·33, Belmont 22·4, Edgworth 16·1, and Bradshaw 24·6; and the death-rates—Turton 14·6, Belmont 14·1, Edgworth 9·4, and Bradshaw 11·6. Measles prevailed in Chapel Town and neighbourhood during the early months of the year to such an extent that it was deemed advisable to close the St. Anne's school for a month, after which the disease subsided. Fortunately, no deaths were recorded from this disease. Diarrhoea contributed 2 deaths. Scarlet fever was present during the whole year, its greatest intensity falling upon the month of June. The total year's record was 36 cases, with 1 death, against 85 cases 5 deaths in 1902. Diphtheria (55 cases 10 deaths) was again epidemic, as in the previous year, the disease being prevalent in the Eagley Ward in both years, and principally among the children attending the Eagley school. This outbreak afforded Dr. Robinson a subject for a special report. The precautionary measures taken included school closure, distribution of printed instructions, &c. In one of the fatal cases of diphtheria the disease was caused through playing upon one of the refuse tips, and collecting little "playthings" from the rubbish. The remaining notifications were typhoid fever 3 cases (1 fatal), and erysipelas 5 cases. All cases of infectious disease had to be treated at home.

Hospital Accommodation nil. The question of hospital accommodation has been under serious and prolonged consideration. After repeated conferences and negotiations with Darwen an excellent scheme for the joint use of the Corporation hospital at Bull Hill was framed, but opposition finally led to its rejection.

Disinfection.—No apparatus, consequently a difficulty was experienced in dealing with infected bedding and wearing apparel. Seventy-nine houses and seven schools were fumigated with sulphur.

Water Supply is obtained mainly from the Bolton Corporation; a few of the outlying farms and houses are dependent upon springs and shallow wells. Complaints are made as to the quality of the water supplied to Egerton; "it has been periodically unsatisfactory, and at times is quite unfit for domestic use."

Sewerage, Scavenging, &c.—Sewage is treated at outfall works at Eagley, Belmont, and Bradshaw. On one occasion the Mersey and Irwell Joint Committee complained of an unsatisfactory effluent from the former works. Scavenging of the district is "fairly well performed" by contract, and the refuse is disposed of by tipping.

Sanitary Inspection.—Bakehouses were found satisfactory, and only three notices were required for defects at the slaughter-houses; 321 visits were paid to the latter premises, 445 to the 190 cowsheds, and 212 to the 106 dairies. Sixty of the cowsheds were found to be overcrowded. The sanitary condition of the various workshops has been carefully supervised, and the requirements in respect of cleanliness, air space, ventilation, and drainage have been observed. Ninety-seven privy middens were converted to the water-carriage system during the year. The Inspector served 199 notices, thereby securing the abatement of 169 nuisances. The sanitary work accomplished included the following:—

House drains repaired or cleansed.....	239
" " reconstructed or trapped	287
Yard surfaces repaired	148
Slopstone pipes disconnected.....	28
" " repaired.....	74
Downspout defects removed	65
Visits to refuse tips	81
New ventilating shafts fixed	9
Total number of inspections	1682
" " re-inspections	1570
Smoke observations.....	225

Tyldesley-with-Shakerley.—(Area in acres, 2,490 ; Estimated Population, 15,750.)—*Medical Officer of Health*
B. BLAKEMORE, M.R.C.S. ; *Salary*, £60.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate... ..	34·0 ...	32·3 ...	34·7
Death-rate	17·6 ...	14·8 ...	17·6
Zymotic death-rate.....	2·28 ...	2·19 ...	3·14
Phthisis ,,	0·57 ...	0·58 ...	0·97
Respiratory ,,	4·19 ...	3·61 ...	3·86
Rate of deaths under 1 year to 1,000 births.....	169 ...	143 ...	170

A rise in the birth-rate of 1·7 per 1,000 as compared with last year, is accompanied by an increase in the death-rate of 2·8. The latter rate is identical with the 10 years' average. Whooping cough contributed 7 deaths, diarrhoea 5 deaths, and measles 1 death. Small-pox gave rise to 1 case in April ; the source of infection could not be traced. The epidemic of scarlatina, which broke out in December, 1902, continued with varying intensity during the whole year, the maximum being reached in February, when 76 cases were reported, and the minimum in September, when 11 cases occurred. The total number of cases during the year was 434, and there were 15 deaths, equivalent to a scarlet fever death-rate of 0·95 per 1,000 of the population. The schools were closed from June 8th to July 20th. Each case was visited and investigated, and precautionary measures adopted, including removal to hospital as far as possible. Typhoid fever was responsible for 22 cases 5 deaths, diphtheria and membranous croup 20 cases 3 deaths, erysipelas 22 cases, puerperal fever 6 cases, and continued fever 1 case.

Hospital Accommodation.—The joint sanatorium at Astley was used for the isolation of 152 cases, viz., scarlet fever 138, typhoid fever 13, and small-pox 1.

Disinfection.—The want of proper apparatus for the disinfection of bedding, &c., has again been very seriously felt, and no doubt can exist that its want has retarded the stamping out of scarlet fever.

Water Supply “has again been very unsatisfactory during the year, but it is expected that this will be remedied in the near future.”

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. The sewage, which hitherto has seriously polluted the Astley Brook, has now been connected to the outfall works. Scavenging is efficiently performed by the Council's employees.

Sanitary Inspection.—Two single houses have been closed, and 3 others temporarily closed whilst certain alterations were made. Six other houses are to be demolished. Bakehouses, workshops, &c., are “fairly satisfactory.” At the beginning of the year there were 3 underground bakehouses; the owners of 2 of these were notified to discontinue their use, and surface bakehouses have been provided in both cases. The third is still under consideration. Slaughter-houses, common lodging-houses, dairies and cowsheds are under constant supervision. New dairy, &c., bye-laws are being framed. Water-closets were provided in lieu of privies at 161 houses. The Inspector served 78 notices, and wrote 320 letters to secure the abatement of 410 nuisances. In one instance legal proceedings were instituted. Dr. Blakemore urges the Council to adopt some time limit for the emission of black smoke from chimneys. “A grave and constant nuisance from this source is ever present. The Inspector has taken many observations, and reported as much as 30 minutes black smoke during the hour. Such an immense volume of unburnt carbon and waste gases thrown into the atmosphere must have a very deleterious effect on the general respiratory sick rate, besides the discomfort and uncleanness caused thereby.”

Ulverston.—(Area in acres, 3,172; Estimated Population, 10,060.)—*Medical Officer of Health*, G. H. PATTERSON, M.R.C.S., D.P.H.; *Salary*, £90.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	28·1	...	26·3	...	26·4
Death-rate	16·5	...	18·0	...	16·2
Zymotic death-rate.....	1·49	...	2·58	...	1·08
Phthisis ,,	0·59	...	1·29	...	1·20
Respiratory ,,	3·28	...	3·28	...	2·87
Rate of deaths under 1 year to 1,000 births.....	95	...	128	...	122

The birth-rate for the year under report—1·7 above the mean of the preceding decade—is the highest recorded since 1894, excepting 1901, when it was 28·3. The general death-rate and zymotic rate are fractionally above the mean of the past 10 years, but the rate of deaths under one year to 1,000 births shows a gratifying diminution. In consequence of an epidemic of measles, affecting chiefly the children attending the infants' schools, it was necessary to advise a short period of closure in order to prevent, if possible, the further spread of the infection. Only 2 deaths were due to this disease; diarrhœa contributed 6 deaths. One case of small-pox occurred—a strolling musician—who undoubtedly contracted the disease outside the district. The sufferer was promptly removed to hospital, and although the man had been singing at the Martinmas Fair, in close contact with hundreds of persons, no further spread of infection took place. Scarlet fever has been epidemic in the district for three years past, and in spite of isolation, and the adoption of other measures of defence against its spread, very little progress appears to have been made, for during the year under review 86 cases were notified, but only 1 death resulted. Last year 101 cases and 1 death occurred. A gratifying feature is the almost complete absence of typhoid fever; not a single notification was received, but 1 death took place. This occurred in the sanatorium—a

person supposed to be suffering from diphtheria, but who, after admission, was found to be suffering from typhoid fever. The number of cases of diphtheria notified has fallen a little short of the year 1902; still the record is unsatisfactory. Fortunately, the disease was of a mild type, only 5 deaths having occurred out of 96 notifications; last year 111 cases and 13 deaths took place. Dr. Patterson believes the main factor in the spread of the infection has been the contact of children during school attendance. Erysipelas contributed 7 cases.

Hospital Accommodation.—The joint hospital at High Carley was used for the isolation of 95 cases, viz., small-pox 1, scarlet fever 39, and diphtheria 55.

Disinfection.—No apparatus. One hundred and twenty-one houses were fumigated with sulphur.

Water Supply has always been good and abundant, and samples taken from time to time for chemical analysis have been found to be free from pollution. There are, however, a few private supplies, some of which are “suspicious.”

Sewerage, Scavenging, &c.—Sewage of one portion of the district flows into tanks, and after subsidence is discharged into the sea, and from another part it is taken direct to the shore. Scavenging, performed by the Authority, is “fairly satisfactory.”

Sanitary Inspection.—One house was condemned as unfit for habitation. Slaughter-houses are described as “fair,” though unsatisfactory as regards position. Bakehouses and lodging-houses are well kept, but dairies and cowsheds “generally very poor.” Water closets were provided in 55 instances in lieu of privy middens. The Inspector (Mr. Whitlow) served 50 notices, procuring the abatement of 142 nuisances, &c.

Upholland.—(Area in acres, 4,686 ; Census Population, 4,773.)
 —*Medical Officer of Health*, J. LLOYD JOHNSTONE, M.R.C.S.;
Salary, £40.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	35·6	...	33·9	...	36·6
Death-rate	14·4	...	19·2	...	18·6
Zymotic death-rate.....	2·09	...	1·25	...	1·86
Phthisis ,, 	0·62	...	1·04	...	0·98
Respiratory ,, 	1·67	...	4·81	...	4·36
Rate of deaths under 1 year to 1,000 births.....	64	...	135	...	134

As compared with the mean of the 10 years 1893-1902, the birth and death rates show decreases of 1·0 and 4·2 per 1,000 of the population respectively. The latter rate is the lowest recorded for the district. The zymotic rate showed a fractional increase, while the rate of deaths of infants was reduced to less than one half. Diarrhœa caused 4 deaths, measles 2 deaths, and whooping cough 1 death. One case of small-pox occurred at Crawford Village in April. The patient contracted the disease from a resident of a neighbouring town, who was a sufferer in its early stage, and who was visiting this district. Arrangements were at once made for the erection of a hospital tent, but owing to delay in transit, the building was only completed in time to isolate the case in its convalescent stage. Chicken-pox was made temporarily notifiable, and 44 cases were reported. Scarlet fever gave rise to 54 cases 1 death. The epidemic of 1902 continued during the year under report, and the disease continued its progress in the direction of Hall Green in February and Holland Moor and Digmoor in March and April. The epidemic abated somewhat in the middle of the year, but reappeared with renewed energy in September in the western division of the township, where it remained until the close of the year. Typhoid fever was entirely absent; diphtheria and

membranous croup caused 7 cases 2 deaths, erysipelas 14 cases, and puerperal fever 3 cases.

Hospital Accommodation.—As stated above, a tent hospital was obtained for small-pox, and 1 case was isolated there. The Wigan and district small-pox hospital scheme embraces this district.

Disinfection.—No apparatus. The Medical Officer of Health advises the provision of proper disinfecting appliances. Infected houses are subjected to formaldehyde vapour.

Water Supply has, so far, been good and equal to the demand, but the Council has supplemented the existing reservoir by constructing another of somewhat larger capacity.

Sewerage, Scavenging, &c.—The bacterial filters at Tawd Bridge are to be assisted by a similar scheme to be carried out at Dig Moor. The old settling tanks at Tontine have been converted into a much more efficient filter bed, and the precipitation tanks in the village continue to act in a satisfactory manner. Scavenging is performed “very fairly” by the Authority.

Sanitary Inspection.—A considerable amount of insanitary property exists. “Scarcely a cottage in the whole row from Alma Hill to Factory Row exists which is fit for human habitation. In some cases the condition of the houses and the inmates is simply appalling, and the time has come when a definite plan for dealing with the matter should be discussed.” The bakehouses, slaughter-houses, and factories and workshops “offer no cause for complaint.” The abolition of the lodging-houses has removed a great source of danger, as the houses were unsuitable for their purpose. Shippons and cowsheds are, generally speaking, in an unsatisfactory state. They are often crowded, stuffy, imperfectly ventilated, and not lime-washed with sufficient frequency. Regulations are in operation, but not properly enforced. Twenty-six notices were served with the result that 24 nuisances were abated.

Urmston. — Area in acres, 992; Estimated Population, 7,100).—*Medical Officer of Health*, G. E. FRYER, M.R.C.S.; *Salary*, £50.

Per 1,000 of Population.	1903.	1902.	Mean of 8 years, 1895-1902.
Birth-rate.....	23·6 ...	23·4 ...	23·2
Death-rate	11·9 ...	12·2 ...	11·6
Zymotic death-rate.....	1·26 ...	2·00 ...	1·86
Phthisis ,,	1·26 ...	0·28 ...	0·61
Respiratory ,,	2·53 ...	2·28 ...	2·01
Rate of deaths under 1 year to 1,000 births.....	148 ...	85 ...	114

With the exception of the infantile mortality (which rose from 85 per 1,000 births to 148), the statistics for the year under review vary but fractionally from those of 1902. Nine deaths were ascribed to the principal zymotic diseases, viz., diarrhoea 5, diphtheria 2, and scarlet fever and measles 1 each. A severe case of small-pox came under observation in January with the rash fully out, and was promptly removed to hospital. Every precaution was taken as regards contacts, and no further attacks occurred. Scarlet fever, the cause of 37 cases, was prevalent in August and September, the spread being assisted in certain instances by great carelessness as regards isolation on the part of parents of children attacked. The offenders were cautioned. The remaining notifications were diphtheria and membranous croup 10, and erysipelas 2. Bacteriological examinations are occasionally made.

Hospital Accommodation.—Infectious cases are removed to the Salford Corporation hospitals by agreement. The case of small-pox was taken to Drinkwater Park hospital, and 17 cases of scarlet fever and 3 of diphtheria to the Ladywell sanatorium.

Disinfection of rooms is effected by means of formaldehyde gas. Bedding is disinfected by superheated steam at the hospital.

Water Supply excellent; obtained from Manchester.

Sewerage, Scavenging, &c.—Sewage is treated at Urmston and Flixton joint works in covered septic tanks, and by filtration through cinder beds and land. Scavenging, undertaken by the Authority, gives satisfaction.

Sanitary Inspection.—Bakehouses and slaughterhouses, regularly inspected, have given rise to no complaint. One underground bakehouse is now disused. New shippons comply with the regulations, but the older ones are mostly deficient in air space. The factories and workshops examined were satisfactory, with one exception. Nuisances abated amounted to 128.

Walton-le-Dale.—(Area in acres, 4,658; Census Population, 11,271.)—*Medical Officer of Health*, R. TRIMBLE, M.D., D.P.H.; *Salary*, £50.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	26·6	...	27·5	...	29·3
Death-rate	14·1	...	14·3	...	17·0
Zymotic death-rate	1·41	...	1·06	...	2·24
Phthisis ,, 	1·06	...	0·88	...	1·14
Respiratory ,, 	2·30	...	1·96	...	2·74
Rate of deaths under 1 year to 1,000 births...	113	...	116	...	163

A gradual diminution in the birth-rate has been going on steadily for 10 years, and the rate for the year under report is the lowest recorded, excepting 1901. The death-rate, zymotic rate, and the proportion of infant deaths to births are well below the 10 years' average. Diarrhœa gave rise to 5 deaths, and measles 3 deaths. Small-pox was accredited with 5 cases 1 death. Four cases were treated in hospital; the other occurred at a house which is so isolated as to render removal unnecessary. The source of infection could not be traced

except in one case—the caretaker of the hospital. Scarlet fever contributed 18 cases 1 death, typhoid fever 4 cases, typhus fever 1 case (fatal), diphtheria and membranous croup 32 cases 5 deaths, erysipelas 7 cases, and puerperal fever 1 case.

Hospital Accommodation.—The four cases of small-pox removed to Bradkirk hospital cost £135 17s. 7d. A new hospital for ordinary infectious diseases is in course of erection.

Disinfection.—Hot air apparatus available.

Water Supply obtaining partly from the Authority's pumping station at Brindle, and partly from the Thirlmere mains of the Manchester Corporation.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. The main culvert was fractured during floods in September; this was repaired, and additional manholes inserted. Scavenging, performed partially by Authority and partly by contract, is "fairly satisfactory." The refuse is used for agricultural purposes.

Sanitary Inspection.—One house was condemned owing to its insanitary condition. Many backyards are not satisfactory by reason of being unpaved. Bakehouses, slaughterhouses, dairies and cowsheds, and factories and workshops are clean and in good order; at three of the farms the water supply was considerably improved. Twenty-seven privy middens were altered to the pail system, and 37 to the waste-water system; in addition, the privies at three mills were converted to water closets. In the month of June Dr. Trimble inspected and reported on a site proposed to be used as a burial ground, which, in his opinion, is quite unsuited for such a purpose. The report was forwarded to the Local Government Board. The Inspector (Mr. Moxham) served 36 notices for nuisance abatement.

Wardle.—(Area in acres, 3,192; Census Population, 4,427.)
 —*Medical Officer of Health*, G. MACGILL, L.R.C.P.E;
Salary, £40.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	14·4 ...	16·4 ...	19·9
Death-rate	10·6 ...	11·9 ...	14·1
Zymotic death-rate.....	1·12 ...	1·58 ...	1·28
Phthisis ,,	0·90 ...	0·67 ...	0·86
Respiratory ,,	0·67 ...	1·80 ...	2·92
Rate of deaths under 1 year to 1,000 births	125 ...	219 ...	141

The births and deaths occurring in the Dearnley Work-house belonging to the Rochdale Corporation are excluded from the above statistics. Both the birth and death rates are the lowest ever recorded for the district. The infant rate, which last year was excessive, has resumed more normal proportions. The district was practically free from measles, but several cases of whooping cough occurred, and 2 deaths were ascribed to this disease. For the third successive year there has been a remarkable immunity from diarrhœa. Small-pox, in April, gave rise to 4 cases in one house, the infection being obtained outside the district. The house where the cases occurred and were treated is situated on the outskirts and well isolated. Scarlet fever gave rise to 39 cases and 2 deaths. The attacks were confined almost wholly to the upper portion of the township. Typhoid fever and diphtheria each contributed 2 cases, and one of the latter proved fatal.

Hospital Accommodation.—Further delay has taken place in the matter of the proposed joint hospital.

Disinfection.—No apparatus. Houses are fumigated with formaldehyde vapour.

Water Supply obtained chiefly from the Rochdale Corporation; there were fewer complaints than usual as to turbidity.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration at two works—"Higher" and "Lower." In July the Mersey and Irwell Joint Committee complained of an unsatisfactory effluent from the former works. The Authority carry out scavenging.

Sanitary Inspection. — Bakehouses, slaughter-houses, dairies and cowsheds, and factories and workshops all appear to be "well kept." Six notices were issued requiring the abatement of nuisances, and in one instance legal proceedings were commenced, but withdrawn on the necessary work being done. Five smoke observations were taken.

Waterloo-with-Seaforth.—(Area in acres, 952; Estimated Population, 25,175.)—*Medical Officer of Health*, W. S. LIMRICK, L.R.C.P.E.; *Salary*, £100.

Per 1,000 of Population	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	27·2	...	26·2	...	26·1
Death-rate	9·7	...	12·0	...	12·7
Zymotic death-rate.....	0·47	...	0·49	...	1·66
Phthisis ,, 	0·43	...	0·70	...	0·86
Respiratory ,, 	1·90	...	2·35	...	2·25
Rate of deaths under 1 year to 1,000 births.....	100	...	124	...	138

An excess in the birth-rate of 1 per 1,000 over last year's rate is accompanied by a decline in the death-rate of 2·3; the former rate is the highest since 1895, and the latter the lowest recorded for the district. The sub-district of Waterloo had a birth-rate of 22·88, and a death-rate of 8·84, and Seaforth a birth-rate of 30·61, and a death-rate of 10·48. Five deaths were ascribed to diarrhoea, and 2 to whooping cough. Six cases of small-pox occurred in the Seaforth division. The usual precautionary measures were taken, including removal to hospital, destruction of bedding, &c. Scarlet fever gave rise to 149 cases 1 death, the greatest prevalence being from

October to December. Twenty-two cases occurred in Waterloo, and 127 in Seaforth. Typhus fever caused 1 case—a nurse who had been in attendance at the Liverpool fever hospitals on patients suffering from this disease. Typhoid fever contributed 18 cases 1 death, diphtheria 42 cases 3 deaths, erysipelas 16 cases, and puerperal fever 1 case. Voluntary notification of phthisis is invited, and the Council offer to subsequently disinfect rooms and bedding.

Hospital Accommodation.—One hundred and twelve cases were removed to the Bootle hospital at Linaere, viz., small-pox 6, scarlet fever 82, typhoid fever 7, typhus fever 1, and diphtheria 16; and 1 case (puerperal fever) was removed to the workhouse hospital. The expenditure connected with the reception of patients into the Bootle hospital was as follows:—annual contribution for maintenance, £459; cost of maintenance of patients, £489 16s. 8d.; total, £948 16s. 8d.

Disinfection.—The Washington Lyon's steam apparatus was used 447 times for the disinfection of 5,613 articles, and 227 rooms were fumigated with sulphur.

Water Supply good, obtained from Liverpool.

Sewerage, Scavenging, &c.—Sewage is discharged into the estuary of the River Mersey. The smoke test has been applied to the drains of 573 houses, as compared with 337 in 1902; 492 defective drains have been repaired, re-laid, or reconstructed. The sanitary arrangements of the schools are periodically examined, and the drains are flushed at least once a month. Scavenging, carried out partly by the Authority and partly by contract, gives satisfaction.

Sanitary Inspection.—The house-to-house inspection has been continued, the total number of inspections being 1,350. Bakehouses—regularly visited—were found to be in clean condition; in several the lighting and ventilation have been greatly improved. For slaughtering on unlicensed premises a

fine of 10s. and costs was imposed. Visits to dairies, cow-sheds, and milkshops amounted to 246, and all these places were found to be fairly satisfactory. A few defects in the sanitary condition of factories and workshops were remedied on attention being drawn to them. Four privies were abolished, and water closets provided in lieu thereof. The usual bacteriological examinations of milk were carried out, and when samples were found to contain indications of contamination the attention of the purveyor was called to it. The Inspector (Mr. Cannell) gives details of 2,503 nuisances remedied. To carry out this work 669 notices were issued. Smoke observations numbered 5.

Westhoughton.—(Area in acres, 5,560 ; Estimated Population, 14,955.)—*Medical Officer of Health*, F. TYNDALL, L.R.C.P. (Lond.); *Salary*, £40.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate..... ..	33·4 ...	32·8 ...	35·5
Death-rate	14·6 ...	15·7 ...	17·5
Zymotic death-rate.....	1·93 ...	2·38 ...	2·71
Phthisis ,, 	0·40 ...	0·54 ...	0·66
Respiratory ,, 	2·60 ...	4·22 ...	4·09
Rate of deaths under 1 year to 1,000 births..... ..	132 ..	171 ...	163

The birth-rate is fractionally higher than for two years past, whilst the general death-rate is the lowest recorded. The zymotic rate is more favourable than in any year since 1896, and the infantile mortality is also well below the average. Dr. Tyndall says "the main causes of the latter mortality, which is always inclined to be high in the district, are improper feeding, bad nursing, and exposure to cold and wet. . . . In addition to the meteorological conditions being favourable to infants during the last two summers, the appointment of a district nurse has had a very beneficial

influence." Diarrhoea, however, was unusually prevalent during the autumn, but, fortunately, only 8 deaths resulted. Measles caused 3 deaths, and whooping cough 2 deaths. Small-pox gave rise to 4 cases. The first attack occurred in February, the infection being undoubtedly imported, but the origin could not be traced. Two other cases were traced to imported infection from the adjacent districts. The fourth case was that of a Bolton man who caught the disease in that town. Prompt removal to hospital took place in each instance; contacts were either re-vaccinated or quarantined, and other precautionary measures adopted. Scarlet fever has again been epidemic during the whole 12 months, although to a much less degree than last year, 130 cases having been notified, with 7 deaths, as compared with 277 cases and 12 deaths in 1902. In several cases the disease was so mild that they were only discovered whilst peeling at school, and a large number of attacks sprang from one of these. The closing of the schools for Christmas holidays was taken advantage of to thoroughly cleanse and disinfect them. Typhoid fever contributed 33 cases 7 deaths, diphtheria and membranous croup 18 cases 2 deaths, erysipelas 18 cases, puerperal fever 5 cases, and continued fever 4.

Hospital Accommodation.—The erection of the joint hospital is still in progress; the building is expected to be completed in the autumn of 1904. A small hospital—8 beds—is provided for small-pox, and this district is embraced in the scheme for the provision of a small-pox hospital for a large area in this neighbourhood. The 4 cases of small-pox were isolated in hospital, 3 in the pavilion above-mentioned, and 1 at Bolton.

Disinfection.—No proper appliances. Houses are fumigated with sulphur and sprayed.

Water Supply satisfactory; obtained from Bolton.

Sewerage, Scavenging, &c.—The district is sewered in four

sections, and the sewage is treated on three farms by chemical and lime precipitation and irrigation. On one occasion the Mersey and Irwell Joint Committee complained of an unsatisfactory effluent from Marsh Brook farm. The district is divided into 13 sub-divisions for scavenging purposes; this work is undertaken by contract, and is better carried out than formerly.

Sanitary Inspection.—House accommodation is steadily improving under new bye-laws. The main points susceptible of improvement are the paving or flagging of backyards, and the necessity of insuring freedom from dampness by proper construction of damp-proof foundations. "Several houses are rapidly becoming unfit for human habitation." Periodical visits are made to bakehouses, slaughter-houses, factories and workshops, and dairies and cowsheds. Several of the latter have been amended as regards ventilation, air space, &c. Fifteen privy middens were abolished and water-closets substituted. The Inspector (Mr. Green) secured the abatement of 116 nuisances. "Casual" smoke observations are taken.

Whitefield.—(Area in acres, 1,406; Estimated Population, 6,775.)—*Medical Officer of Health*, A. J. YOUNG, L.R.C.P.E.; *Salary*, £20 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 9 years, 1895-1902.
Birth-rate	20·0 ...	27·0 ...	27·7
Death-rate	13·5 ...	12·4 ...	17·3
Zymotic death-rate.....	1·47 ...	0·59 ...	2·68
Phthisis ,, 	1·62 ...	0·44 ...	0·69
Respiratory ,, 	2·50 ...	1·49 ...	2·81
Rate of deaths under 1 year to 1,000 births.....	176 ...	71 ..	155

The chief features of the statistics presented by Dr. Young are a decrease in the birth-rate as compared with last year of 7·0 per 1,000 of the population, and a rise in the rate

of deaths under one year to 1,000 births from 71 to 176. The general death-rate and zymotic rate are also fractionally higher as compared with last year. Diarrhœa was responsible for 6 deaths, and whooping cough, small-pox, typhoid fever, and diphtheria 1 death each. The notifications received amounted to 21, viz., small-pox 3, scarlet fever 7, typhoid fever 4, diphtheria 1, and erysipelas 6.

Hospital Accommodation.—The 3 small-pox cases were isolated in hospitals at Ainsworth and Birtle. By Provisional Order this district is combined with Radcliffe and other neighbouring districts for the provision of hospital accommodation, both for small-pox and the ordinary infectious diseases. (For further details see Radcliffe summary, page 163.)

Disinfection.—No apparatus. Infected houses were fumigated either with sulphur or formaldehyde gas, and in addition, during the summer holidays, all the schools were fumigated.

Water Supply, obtained from the Bury Joint Board, is “unsatisfactory, and will remain so until filtered.”

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and land filtration. As in the previous year, the Mersey and Irwell Joint Committee on three occasions complained of the unsatisfactory character of the effluent. Scavenging, as carried out by the Authority, is “fairly” well performed. A difficulty has been experienced with regard to disposal of refuse.

Sanitary Inspection.—Dairies and cowsheds are not inspected, and no attention is paid to factories and workshops. Slaughter-houses and bakehouses appear to be well kept; one of the latter—underground—was closed. The Inspector (Mr. Skinner) served 20 notices for nuisance abatement, took 6 smoke observations, &c.

Whitworth.—(Area in acres, 4,485; Estimated Population, 9,688.)—*Medical Officer of Health*, ALEXANDER WELSH, M.D.; *Salary*, £40.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	22·5	...	22·5	...	22·4
Death-rate ...	14·3	...	15·2	...	17·1
Zymotic death-rate.....	0·30	...	0·41	...	1·15
Phthisis ,,	1·23	...	1·45	...	1·29
Respiratory ,,	2·47	...	3·00	...	4·05
Rate of deaths under 1 year to 1,000 births.....	142	...	100	...	154

The birth-rate is exactly the same as last year, and the death-rate shows a reduction of 0·9 per 1,000. The latter rate is the lowest recorded since 1894. The zymotic rate is well below the average of the preceding decade, and so is the infant rate, although the latter is much higher than last year. Some of the infant mortality is undoubtedly caused by undue exposure and improper clothing, but improper feeding is one of the most potent factors in raising the mortality. This is not necessarily due to want of food, but rather to the want of proper food administered in a judicious manner, and to the erroneous ideas which prevail amongst the industrial classes on the subject of infant food. Measles and diarrhœa did not cause a single death, and only one was ascribed to whooping cough, although this disease prevailed extensively in Shawford Ward during the autumn. Small-pox gave rise to 14 cases—the first occurred on March 24th and the last August 2nd. In several instances the disease was imported, and a few were due to personal contact. Thirteen patients were removed to hospital, the infected bedding destroyed, and other precautionary measures carried out. Scarlet fever was the cause of 59 cases 1 death. The disease was so mild that many of the attacks were difficult to diagnose, and, in some, notification was deferred until

desquamation revealed the true character of the sickness. Typhoid fever contributed 10 cases 1 death, and erysipelas 18 cases.

Hospital Accommodation.—A small-pox hospital (cottage) is provided. Owing to the outbreak of this disease extensive structural alterations were required, and provision is now made for 12 beds. As stated above, 13 cases were isolated here.

Disinfection.—No apparatus, sulphur and formalin fumigation being relied upon.

Water Supply obtained mainly from Rochdale. Many of the old houses, however, continue to use water from wells or springs, liable at times to pollution.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and land filtration. Extensions of the outfall works have recently been carried out. The Authority carry out scavenging in a satisfactory manner, the refuse being disposed of on tips.

Sanitary Inspection.—Bakehouses fulfil the requirements of the Act. Slaughter-houses have been put upon a satisfactory basis, and are now said to be well adapted for their present use. One was condemned as unsuitable. Many of the cowsheds are defective in ventilation and light, and at some the drainage, water supply, &c., are not satisfactory. It has not been necessary to report specifically on the sanitary condition of factories and workshops. Eight privies were abolished and the water-carriage system substituted. The Inspector (Mr. Cordingley) reports on the nuisances abated during the year; these necessitated the writing of 66 letters, and the service of 87 notices. An application for the registration of a common lodging-house was refused.

Widnes (Borough).—(Area in acres, 3,110; Estimated Population, 29,519.)—*Medical Officer of Health*, D. U. MACLENNAN, M.D.—*Salary*, £200.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	33·8	...	34·0	...	33·8
Death-rate	15·1	...	15·3	...	18·6
Zymotic death-rate.....	1·82	...	1·42	...	2·54
Phthisis ,,	0·23	...	0·50	...	0·70
Respiratory ,,	2·74	...	3·69	...	4·53
Rate of deaths under 1 year to 1,000 births	143	...	135	...	184

The statistics presented by Dr. MacLennan vary but little from those of 1902. The birth and death rates each show reductions of 0·2, while the zymotic and infant rates are slightly less favourable. As compared with the mean of the 10 years, 1893-1902, the general death-rate shows a reduction equal to 3·5. Measles was the cause of only 2 deaths, against 10 last year, but whooping cough and diarrhoea both had a much higher mortality, the former contributing 12 deaths and the latter 9 deaths, whilst in 1902 each disease caused only 2 deaths. Twelve cases of small-pox were notified, and, with one exception, received isolation in hospital, where 1 death took place. Every precaution was taken in dealing with the outbreak by prompt isolation and disinfection, also by vaccination and re-vaccination. Scarlet fever had a wide spread; 231 notifications were received, and 7 deaths took place. Last year 75 cases and 2 deaths occurred. Owing to the prevalence of this disease amongst the scholars of one of the schools in Simms Cross Ward, closure for a period of three weeks was resorted to. Typhoid fever contributed 48 cases 11 deaths. Special investigations showed that, "as in previous years, the outbreaks and chief centres of infection are identical in time and place. A special Sub-Committee inspected these centres and gave strict instructions to have the

houses, and also the back premises, passages, and privies thoroughly disinfected. This has been most carefully attended to." Typhus fever was responsible for 1 case (fatal), diphtheria and membranous croup 31 cases 11 deaths, erysipelas 17 cases, and puerperal fever 2 cases.

Hospital Accommodation.—The hospital for ordinary infectious cases contains 36 beds, and provision is also made for small-pox at Barrow's Green. The cases removed to hospital during the year amounted to 215, viz., small-pox 11, scarlet fever 156, typhoid fever 37, diphtheria 7, typhus fever 1, and "unclassified" 3.

Disinfection.—The number of infected articles passed through the steam disinfector (Manlove and Alliott) was 4,369. Sixty rooms were fumigated by sulphur or formalin.

Water Supply, derived from deep bore wells in the Keuper sandstone, is excellent in quality and abundant.

Sewerage, Scavenging, &c.—Sewage is discharged into the estuary of the River Mersey. The sewers have been periodically flushed, and repaired where required, and the ventilating shafts maintained in good order. Scavenging is performed in a satisfactory manner under the direction of a special Sub-Committee.

Sanitary Inspection.—Three insanitary houses were condemned, and a similar number demolished. The bakehouses are generally satisfactory and constructed in accordance with the requirements of the Act, and slaughter-houses and lodging-houses were found to be kept in good order. Dairies and cowsheds were systematically inspected, with the following results:—6 cowsheds and 3 milkshops required limewashing; 3 of the former were defective as regards drainage and ventilation, and 1 was overcrowded. These defects were all remedied on attention being drawn thereto. The sanitary conveniences at 3 factories were found in a foul and defective

state. Canal boats inspected numbered 65; the Inspector reports that there was "an apparent desire on the part of the occupants to conform with the Acts and Regulations." One hundred and forty-four privies were reconstructed or repaired, and 6 were converted to the water-carriage system. The usual complaints were made about offensive gases escaping from some of the works. The same were reported to the various firms, who invariably gave attention in endeavouring to prevent further escape. The quantity of sulphuretted hydrogen gas escaping is very much less than in former years. The Inspector (Mr. Lowe) gives details of a large amount of work accomplished in his department, including preliminary notices served 384, legal notices 32, letters written 582, inspections with regard to sanitary matters 960, nuisances abated 1,231, &c. In one instance legal proceedings had to be instituted before the necessary work was done. No action was taken regarding the smoke nuisance.

Withington.—(Area in acres, 5,818; Estimated Population, excluding Workhouse, 36,000.)—*Medical Officer of Health*, T. C. RAILTON, M.D. (Lond.); *Salary*, £500.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	20·2	...	20·9	...	20·6
Death-rate	11·3	...	11·7	...	11·9
Zymotic death-rate.....	0·86	...	1·00	...	1·04
Phthisis ,, 	1·05	...	0·77	...	0·87
Respiratory ,, 	1·27	...	1·91	...	1·97
Rate of deaths under 1 year to 1,000 births.....	105	...	98	...	114

The mortality statistics for the year under review are again of a satisfactory character, and compare favourably with the averages of the 10 years 1893-1902. In apportioning the births and deaths to the four different townships to which they belong the following rates are obtained :—

	Birth-rate.	Death-rate.	Zymotic rate.	Infantile mortality.
Withington	18·9	... 11·9	... 0·9	... 139
Didsbury	15·6	... 10·8	... 0·7	... 92
Chorlton-eum-Hardy.	24·8	... 10·5	... 0·8	... 80
Burnage	28·7	... 14·3	... 1·0	... 89

Measles was much less prevalent than in the previous year. The total number of cases ascertained to exist was 98, which compares favourably with 321 in 1902, while the number of deaths was 6, as compared with 17. Withington suffered in January, and Chorlton-eum-Hardy during the months of March, April, and May, but the other townships were comparatively free from the disease. Whooping cough prevailed considerably, and caused 12 deaths, while diarrhœa contributed 7 fatalities. Fourteen cases of small-pox were reported. The first patient, a resident of Didsbury, apparently contracted the disease in Warrington, and the succeeding cases all belonged to the immediate neighbourhood of the first patient, and arose either directly or indirectly from him. Each case as it occurred was removed to hospital. No deaths took place. The contacts, with very few exceptions, were induced to be re-vaccinated, and thorough disinfection was carried out. Scarlet fever was not quite so prevalent as in previous years, the notifications being 85, and the deaths 3, against 109 cases 7 deaths last year, and 245 cases 1 death in 1901. In several instances the mildness of attack was responsible for the spread of the disease, as the first case was not recognised until others had been infected. Only 14 cases of typhoid fever were notified, one of which had a fatal termination. In 8 of these cases the blood serum was submitted to the bacteriological test, and a positive reaction was obtained in each case. Diphtheria—associated with membranous croup—gave rise to 31 attacks and 2 deaths; 23 swabs were taken from the throat, and in 22 instances the bacilli of diphtheria were found to be present. The Council supply anti-toxin free of cost to the medical

practitioners of the district. Erysipelas contributed 10 cases, and puerperal fever 1 case. After a death from phthisis the Council endeavour to obtain permission to disinfect the room occupied by the patient during the illness.

Hospital Accommodation.—The details of patients isolated in hospital during 1903 are as follows:—To the Baguley sanatorium, scarlet fever 37, diphtheria and membranous croup 12, and enteric fever 6; to the Newall Green joint small-pox hospital, 14 cases of small-pox; to Monsall hospital (Manchester), 1 case of enteric fever; and to Chorlton Union Workhouse hospital, 1 case of diphtheria, and 1 of enteric fever, making the total removals 72.

Disinfection.—The total number of articles stoved by the Manchester Corporation on behalf of the Council was 4,608. Houses fumigated, including some after phthisis, amounted to 159.

Water Supply obtained mainly from the Manchester Corporation. In some of the outlying districts pumps are relied upon.

Sewerage, Scavenging, &c.—A large portion of the sewage of the district is treated at the outfall works, but that of Chorlton-cum-Hardy and Burnage is conveyed to the Heaton Norris sewage farm. The Order of Court obtained by the Mersey and Irwell Joint Committee has been extended, and the Chief Inspector reports that “good progress has been made with the construction of new tanks and bacteria beds.” In many instances house drains were tested with smoke, and in addition the drains of 27 houses were exposed and examined under Sec. 41 of “The Public Health Act, 1875.” Scavenging is carried out satisfactorily by the Council’s employees. A refuse destructor is in operation.

Sanitary Inspection.—Ninety-nine notices—referring to 1194 houses—were served requiring alterations of insanitary

properties, and 116 such premises were altered without notice. Seven underground bakehouses have been closed as not being suitable for their purpose in regard to construction, light, and ventilation. Slaughter-houses and dairies and cowsheds have received regular attention, and have been found to be kept in a satisfactory condition. All premises coming under the Factory and Workshop Act are under supervision. The offensive privies and ashpits which still exist in so many parts of the district are being replaced by water-closets, with galvanized iron receptacles for refuse, but only slowly. During the year 41 were thus altered, compared with 59 in 1902, and 83 in 1901. Nuisances abated, after the service of 99 notices, amounted to 126. In one instance legal proceedings were instituted, and a fine of £2 6s. was inflicted. Four smoke observations were taken.

Withnell.—(Area in acres, 3,705; Estimated Population, 3,500.) — *Medical Officer of Health*, to November 12th, J. SINCLAIR, M.B.; from November 13th, HENRY CASE, L.R.C.P.E.; *Salary*, £20.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	24·5 ...	23·2 ...	25·3
Death-rate	10·0 ...	7·7 ...	13·3
Zymotic death-rate	0·28 ...	0·29 ...	1·04
Phthisis ,,	0·28 ...	1·19 ...	0·93
Respiratory ,,	2·85 ...	0·59 ...	2·30
Rate of deaths under 1 year to 1,000 births.....	58 ...	76 ...	126

The report submitted was prepared by Dr. Sinclair for the period up to the date of his resignation (November 12th), and from that time to the end of the year by Dr. Case. The birth-rate was higher than for 3 years past, while the death-rate was the lowest recorded since 1894, excepting last year. The zymotic and infant rates are well below the average, the

ormer being due to 1 death from typhoid fever. Scarlet fever, somewhat prevalent in the spring, gave rise to 42 cases. Erysipelas contributed 6 cases, and small-pox, typhoid fever, diphtheria, and puerperal fever 1 case each. The small-pox case occurred in February at Abbey Village, and was promptly removed to hospital.

Hospital Accommodation.—A hospital has been provided by voluntary contributions as a Coronation Memorial. The pavilion contains two large wards, each capable of accommodating 4 beds, and two small single-bed wards are provided for special cases. Four scarlet fever patients were treated. An arrangement has also been entered into with the Blackburn Corporation for the right to use one bed at their Finnington small-pox hospital by the payment of a retaining fee of £20 per annum. One case was removed there.

Disinfection.—Musgrave's Manchester steam apparatus is available.

Water Supply, plentiful and good, obtained from the Liverpool Corporation waterworks.

Sewerage, Scavenging, &c.—The method of sewage treatment is precipitation, polarite beds, and irrigation. The Authority carry out scavenging.

Sanitary Inspection.—Three houses were condemned, partly on account of their condition, and partly because of their close proximity to the reservoirs of the Liverpool Corporation. Bakehouses are described as "good," and slaughter-houses as "satisfactory." Dairies and cowsheds—subject to regulations—are reported as "fair"; these premises have received attention, 5 of the shippens having been altered to comply with the regulations, and 4 others are now being improved. Improvements as regards ventilation, cleansing, &c., were carried out at some of the workshops. The Inspector served 16 notices for nuisance abatement. Three smoke observations were taken.

Worsley.—(Area in acres, 5,412; Estimated Population, 12,747).—*Medical Officer of Health*, R. SAYERS, M.D.; *Salary*, £40 (no claim).

Per 1,000 of Population.	1903.	1902.	Mean of 8 years, 1895-1902.
Birth-rate.....	25·1 ...	24·9 ...	24·0
Death-rate	14·4 ...	14·9 ...	14·3
Zymotic death-rate.....	1·88 ...	1·34 ...	1·79
Phthisis ,,	0·70 ...	1·11 ...	0·92
Respiratory ,,	2·19 ...	1·58 ...	2·37
Rate of deaths under 1 year to 1,000 births....	137 ...	111 ...	145

The statistics presented by Dr. Sayers, on the whole, vary but little from those of 1902, or from the mean of the preceding 8 years. The birth-rate fractionally increased, and is the highest recorded since 1895. The death-rate shows a slight reduction, and is almost identical with the mean of the 8 years 1895-1902. The Ward death-rates were as follows:—North 16·1, Central 13·4, East 13·4, Worsley 9·5, and Boothstown 20·9. The latter Ward has also the highest zymotic rate and the highest rate for notifications of infectious cases. Reference is made to insanitary conditions in this portion of the district, such as sodden, damp ground, unsatisfactory scavenging, river pollution by sewage, &c. These matters might, with considerable advantage, receive the Council's attention. Measles was much less frequent than in the previous year, at no time being of epidemic proportions, and the same may be said of diarrhœa and whooping cough. The deaths from these diseases were 2, 5, and 4 respectively. One case of small-pox was notified, and was promptly isolated in hospital; the source of infection could not be traced. Scarlet fever contributed 69 cases 1 death, typhoid fever 12 cases 2 deaths, diphtheria and membranous croup 36 cases 10 deaths, erysipelas 22 cases, and puerperal fever 1 case. The Council provide anti-diphtheritic serum free of cost, and this has been largely taken advantage of.

Hospital Accommodation.—The small-pox case was removed to the new hospital (12 beds) at Linnyshaw Moss, provided jointly with Swinton and Pendlebury, and 21 ordinary infectious cases were removed to Ladywell (Salford), viz., scarlet fever 14, typhoid fever 2, and diphtheria 5.

Disinfection.—Steam apparatus at the Salford hospital is available.

Water Supply obtained from Manchester and Bolton.

Sewerage, Scavenging, &c.—Sewage is treated at outfall works at Boothstown and Barton Old Hall. At the latter works it is proposed to construct two precipitation tanks, each of a capacity of 75,000 gallons, and to lay out as filter beds 20 to 25 acres of land. Scavenging, undertaken by contract, is said to be satisfactory.

Sanitary Inspection.—Dairies and cowsheds have been inspected from time to time, and suggestions made as to improved cleanliness and ventilation. Three cowsheds have been altered, and considerable improvements made in order to comply with the bye-laws. Bakehouses and slaughter-houses appear to be well kept, and factories and workshops, on the whole, were found satisfactory. Eighty canal boats were examined, 8 of which did not altogether comply with the requirements of the regulations. The Inspector (Mr. Willcock) reports on the work accomplished in his department, which included the following :—

Letters and notices to abate nuisances.....	109
Drains repaired and cleansed.....	32
Slop-pipes, downspouts, &c., repaired	33
Ashpits reconstructed or repaired.....	54
Houses limewashed... .	22
Total nuisances abated	187
Smoke observations.....	15

RURAL SANITARY DISTRICTS.

Barton-upon-Irwell.—(Area in acres, 6,872; Estimated Population, 8,484).—*Medical Officer of Health*, ALBERT E. BERRY, M.D. (Lond.); *Salary*, £60.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	25·4	...	25·8	...	25·2
Death-rate	12·7	...	16·7	...	13·6
Zymotic death-rate.....	1·76	...	2·54	...	1·82
Phthisis ,,	0·70	...	0·84	...	0·86
Respiratory ,,	1·88	...	2·66	...	2·50
Rate of deaths under 1 year to 1,000 births.....	129	...	117	...	125

With the exception of last year, the birth-rate was the highest recorded since 1897, and it approximates very closely with the mean of the preceding decennial period. The township of Barton Moss had a birth-rate of 29 per 1,000, Flixton 26, and Davyhulme and Clifton each 24. The general death-rate showed a reduction of 4 per 1,000 as compared with 1902, and there was a diminution in the zymotic rate of 0·78. The township death-rate varied from 21 per 1,000 in Barton Moss to 15 in Clifton, 11 in Flixton, and 9 in Davyhulme. Whooping cough and diarrhoea did not cause a single fatality, and only 1 death was ascribed to measles. The most marked feature of the year was the unusual prevalence of diphtheria and membranous croup. These diseases caused 67 cases and 12 deaths. No less than 53 of the attacks occurred in Clifton; about 25 occurred amongst children attending St. Anne's infant school, and were due to personal contact at a concert given in that school, at which an unrecognised case was present. The schools, both infant and adult, were closed with

beneficial results. On October 10th an adult, while suffering from sore throat for which she was sucking lozenges, paid a visit to another house and took a lozenge out of her mouth and put it into that of a boy. Two days later the woman was certified to be suffering from diphtheria. Next day the boy was also found to be affected with the same disease, and in this case the illness had a fatal termination. Scarlet fever contributed 44 cases 2 deaths, typhoid fever 4 cases, and erysipelas 9 cases.

Hospital Accommodation.—An arrangement exists with Salford to take cases from this district into the Corporation hospitals. Two beds are reserved for small-pox, and 5 for other infectious diseases. Forty cases were removed, viz., scarlet fever 17, and diphtheria 23.

Disinfection.—Steam apparatus at the hospital is available. Houses are fumigated either with sulphur or formaldehyde gas.

Water Supply.—The whole district, excepting a few scattered dwellings, is supplied partly by Manchester and partly by Bolton.

Sewerage, Scavenging, &c.—Sewage is treated on the bacterial system at two farms—Clifton and Davyhulme. On one occasion the Mersey and Irwell Joint Committee complained of an unsatisfactory effluent from the latter works. The usual flushing of sewers has been continued with good results, and additional means of ventilation—on the Webb system—have been provided. Scavenging—at Clifton the emptying of ashpits and disposal of house refuse is carried out in a satisfactory manner by a contractor; at Flixton it is undertaken by the Council, and at Barton Moss and Davyhulme this work still devolves upon the occupiers.

Sanitary Inspection.—Bakehouses, slaughter-houses, and dairies and cowsheds have been duly inspected and found

satisfactory. Two underground bakehouses were dealt with, and the necessary improvements effected. The sanitary condition of workshops and workplaces has not called for any special action. The Inspector (Mr. Bland) served 29 notices, and as a result secured the abatement of 74 nuisances.

Blackburn.—(Area in acres, 20,150; Census Population, 8,238.)—*Medical Officer of Health*, W. R. POLLARD, L.R.C.P.E.; *Salary*, £40.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate..... ..	24·8 ...	24·8 ...	27·6
Death-rate	14·2 ...	13·1 ...	16·5
Zymotic death-rate.....	0·84 ...	0·84 ...	1·45
Phthisis ,,	0·72 ...	0·60 ...	0·76
Respiratory ,,	3·39 ...	2·79 ...	3·02
Rate of deaths under 1 year to 1,000 births.....	107 ...	117 ...	147

The birth-rate continues the same as last year, but 2·8 per 1,000 below the mean of the 10 years 1893-1902, and the death-rate is 2·3 below the average of the same period. The infant rate is the lowest recorded with the exception of 1896. The birth-rate varied from 46·5 in Witton, 44·6 in Ramsgreave, 33·9 in Livesey, 32·9 in Osbaldeston, 27·6 in Salesbury, 27·02 in Dinekley, to 19·9 in Yate and Pickup Bank, 19·7 in Balderstone, 19·5 in Pleasington, 18·5 in Wilpshire, and 12·8 in Clayton-le-Dale; and the death-rate from 27·9 in Ramsgreave, 21·9 in Osbaldeston, 17·2 in Livesey, 16·1 in Tockholes, 16·07 in Clayton-le-Dale, to 9·9 in Yate and Pickup Bank, 6·7 in Wilpshire, 6·5 in Pleasington, 4·6 in Salesbury, and nil in Dinekley and Witton. During November and December measles attacked a number of school children at Balderstone, Cherry Tree, and Mellor, and school closure was resorted to at each place. Fortunately only 2 deaths

were due to this disease. Small-pox gave rise to 5 cases 1 death. The latter took place in January, in Finnington hospital, Blackburn—the case reported from Livesey last year. The first attack this year took place in Salesbury—a man who had been tramping about the country, and had contracted the disease in the course of his wanderings. The remaining 4 cases occurred in Billington, three in the same house, the infection very probably being obtained from a fellow workman. In the remaining case the disease was contracted from one of the 3 just mentioned. Prompt removal to hospital took place in each case, and the usual precautionary measures—disinfection, re-vaccination, &c.—were adopted. Scarlet fever gave rise to 40 cases and 3 deaths, Billington and Wilpshire producing the majority of the attacks. In July, Salesbury school was closed for a month owing to an outbreak of this disease amongst the scholars. Typhoid fever contributed 7 cases 1 death, diphtheria 5 cases, and erysipelas 2 cases. “The Infectious Disease (Prevention) Act, 1890,” came into operation in this district on April 6th, 1903.

Hospital Accommodation.—The 5 small-pox cases were removed to the Blackburn hospital at Finnington, and 6 cases of scarlet fever were isolated at the Blackburn sanatorium.

Disinfection.—No proper appliances. Occasionally the Blackburn Corporation apparatus is used. Houses undergo sulphur or formalin fumigation.

Water Supply is obtained partly from Blackburn and partly from private reservoirs and wells.

Sewerage, Scavenging, &c.—Outfall works are in operation at Mellor Brook, Mellor, Wilpshire, Pleasington, and Eccleshill. Nothing has yet been done towards the removal of the weir at Feniscowles, which has so often been reported upon as causing a serious nuisance. Scavenging is still left to owners and tenants, and, consequently, is not satisfactorily performed.

Sanitary Inspection.—There are no bakehouses or public slaughter-houses; cattle are generally killed at the farmsteads. Dairies and cowsheds—periodically inspected—are gradually being improved as regards their sanitary condition. Factories and workshops give satisfaction. The Inspector served 25 notices, and, with two exceptions, they were complied with.

Burnley.—(Area in acres, 41,097; Estimated Population, 17,000.)—*Medical Officer of Health*, THOMAS DEAN, M.D.; *Salary*, £80.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	21·5	..	23·4	...	23·9
Death-rate ..	12·2	...	12·9	...	13·9
Zymotic death-rate.....	0·88	...	2·10	...	1·55
Phthisis ,,	0·64	...	0·54	...	0·92
Respiratory ,,	1·94	...	2·71	...	2·84
Rate of deaths under 1 year to 1,000 births.....	122	...	107	...	120

The birth and death rates show reductions of 1·9 and 0·7 per 1,000 of the population respectively as compared with last year, and the zymotic rate was reduced by 1·22. The infantile mortality was less favourable. Hapton, Altham, and Huncoat had the highest birth-rates, and the Pendle townships the lowest; whilst Habergham, Dunnockshaw, Hapton, Altham, and Huncoat had the highest death-rates, and Cliviger and the Pendle townships the lowest. Measles and whooping cough have been prevalent in Huncoat, Higham, Worsthorne, and Hapton, and the day schools in the two first-mentioned townships were closed. House-to-house distribution of special circulars, dealing with measles, have been made in the affected villages. Three deaths were ascribed to whooping cough, but measles did not give rise to any fatality. Diarrhoea contributed 4 deaths. Eighteen cases of small-pox were reported, and in each case the infection could be traced to

neighbouring towns. Three occurred at Barley, brought thither by a navvy from the borders of Yorkshire; 8 at Higham, contacts from Padiham; 1 at Dunnockshaw, brought from Bury; 4 at Huncoat, brought from Padiham; and 2 at Reedley Hallows, contacts from Brierfield. There was only 1 death—an old man, over 70 years of age, at Higham. Removal to hospital took place, and all contacts were watched and quarantined where necessary. Nearly all the persons attacked were unvaccinated. Scarlet fever gave rise to 55 cases; all were mild in character, and the disease was no doubt spread by children playing with others whilst suffering from unrecognised attacks. Diphtheria, associated with membranous croup, contributed 22 cases 6 deaths, typhoid fever 6 cases 1 death, and erysipelas 6 cases.

Hospital Accommodation.—The small-pox cases (18) were removed to the joint hospital at Crown Point, and 12 cases of scarlet fever were isolated in the joint sanatorium at Kebble Bank.

Disinfection.—Steam apparatus at Burnley is available. Infected houses—including those where phthisis occurred—were fumigated either with sulphur or formalin.

Water Supply.—Public water supplies are now laid in the townships of Huncoat, Altham, Read, Old Laund Booth, Barley, Blacko, Briercliffe, Worsthorne, and Foulridge. With the exception of out-of-the-way places, the whole of the inhabitants of the townships named have water laid on to the houses. Other villages, namely, Dunnockshaw, Ightenhill Park, Reedley Hallows, and Simonstone, have private or public supplies. Plans have been prepared for a scheme to supply water to several villages in the township of Cliviger, at an estimated cost of £5,000, and a scheme is in hand for an additional supply at Briercliffe from Boulsworth End. Hapton is badly in want of an increased supply, the conditions in dry seasons being “positively dangerous.”

Sewerage, Scavenging, &c.—The Surveyor reports as follows:—The sewage works at Whinney Hill, Altham, still claim a deal of attention, and, with a view to improving the effluent, a small plot of land has been secured on which to provide an additional filter. At Huncoat the main sewers and the sewage disposal works are practically completed, and it is proposed to extend the sewers in Briercliffe. The Hapton sewers are now connected up to the mains of the Burnley Corporation. Plans are in preparation for a system of sewerage and sewage disposal for the Cliviger district, including Holme, Walk Mill, Mereclough and Overtown, and also for Foulridge, Higham, and Worsthorpe. The sewerage of Higham is “as bad as it can possibly be,” but, as stated, plans are being prepared for a proper system, including outfall works. At the hamlet of Newchurch (Goldshaw) the method of sewerage is “antiquated” and needs early attention. The scavenging of 8 townships is now carried out directly by the Council’s own workmen, 3 additional townships having been put on this system during the year under report. Mr. Edmondson (Surveyor) says the expense is slightly greater, but the regularity and efficiency of the work more than compensates the increased expenditure. He points out that the Rural Council will, sooner or later, have to face the difficulty of dealing with the domestic refuse. Old quarry holes, ditches, and improvised tips will not last for ever, and it is inevitable that refuse will have to be dealt with by destruction. In the small remote villages and hamlets no difficulty is experienced.

Sanitary Inspection.—Bakehouses and slaughter-houses have, as usual, been inspected regularly, and dairies and cowsheds have received 179 visits. Many of the latter have been improved as regards lighting, ventilation, drainage, water supply, and air-space. Factories and workshops came under special observation; no structural defects were found, but several in want of cleansing have been attended to. Additional sanitary conveniences were

provided at one factory. Twenty-four canal boats underwent examination, and no serious infringements of the Act were discovered. The Inspectors (Messrs. Edmondson and Hewes) report on 497 nuisances, which were abated. Notices served amounted to 432, and in 1 instance legal proceedings followed.

Bury. — (Area in acres, 12,014; Estimated Population, 8,200.)—*Medical Officer of Health*, J. W. Cook, M.B.; *Salary*, £95.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	21·7	...	21·4	...	22·4
Death-rate	15·1	...	12·6	...	14·1
Zymotic death-rate.....	0·97	...	1·10	...	1·36
Phthisis ,,	0·97	...	0·24	...	0·59
Respiratory ,,	2·07	...	2·56	...	3·43
Rate of deaths under 1 year to 1,000 births.....	129	...	154	...	127

A birth-rate fractionally above last year's rate is accompanied by a death-rate increased by 2·5 per 1,000. The zymotic and infant rates, however, are reduced. Dr. Cook says, "as was the case last year, a marked feature of the infantile deaths is the large number of premature births and congenital weakness, equalling 39 per cent. of the total deaths under one year of age. This is undoubtedly due to the large amount of women labour in the mills, but under proper precautions the evil might be largely mitigated, and until something is done in this direction we cannot look for much decrease in the infantile mortality." The township birth-rates were as follow:—Birtle-cum-Bamford 25·2, Ainsworth and Outwood each 24·0, Walmersley-cum-Shuttleworth 18·2, and Unsworth 17·9; and the death-rates—Birtle-cum-Bamford 19·0, Outwood 17·0, Unsworth 13·5, Ainsworth 12·0, and Walmersley-cum-Shuttleworth 8·3. Two deaths were ascribed to measles, and 3 to diarrhœa. "The feature of the

year has been the prevalence of small-pox." Three of the four cases which occurred in Ainsworth were clearly traceable to infection from the small-pox hospital situated in that parish. The five cases in Walmersley-cum-Shuttleworth were the result of an extremely mild case which had not been recognised. The last, and tenth, case was notified on August 16th. All the patients were promptly isolated in hospital, and steps taken to prevent the spread of infection. Scarlet fever (39 cases 2 deaths) has been prevalent more or less all over the district. Typhoid fever contributed 2 cases, diphtheria 6 cases (1 fatal), and erysipelas 1 case.

Hospital Accommodation.—Arrangements have been made for the isolation of cases of infectious diseases, including small-pox, by the formation, under Provisional Order, of the Bury, &c., Joint Board. For further details see summary for Radcliffe (page 163). As stated above, the 10 cases of small-pox were removed to hospital (Ainsworth), and 1 case of scarlet fever was removed to Bury.

Disinfection.—A Thresh steam apparatus at the hospital is available. Ninety-eight rooms were disinfected with formaldehyde gas.

Water Supply has been satisfactory. It is obtained partly from the Bury and District Joint Board, partly from the Bolton Corporation, and from private sources.

Sewerage, Scavenging, &c.—Sewage is treated at two out-fall works—at Unsworth (Hollins) by land filtration, and at Outwood (Prestolee) by septic tank and bacteria filter beds. In October the Mersey and Irwell Joint Committee issued 4 summonses against this Authority, 2 for polluting the Dixon Fold Brook, and 2 in respect of pollution of the Unsworth Brook. An Order, with costs, was made in each case. Negotiations are in progress with the Bolton Corporation respecting the sewerage of Ainsworth, and application has

been made to the Local Government Board for sanction to borrow the necessary money. Scavenging is carried out as in previous years, viz., by arrangement with farmers.

Sanitary Inspection.—Three dilapidated houses were demolished. There is only 1 bakehouse in the district, and that is satisfactory. Slaughter-houses are reported as “fair,” and dairies and cowsheds as “in a more satisfactory state than previously.” Whenever opportunity offers, steps are taken to improve the condition of the shippens and farmyards, and to make them more sanitary. Alterations have been made at 11 farms during the year, and improvements are contemplated at 12 others. The 26 workshops visited were found in clean condition, and 24 canal boats examined complied with the requirements. The Inspector (Mr. Hurst) secured the abatement of 210 nuisances, served 48 notices, took 19 smoke observations, &c.

Chorley.—(Area in acres, 39,988; Estimated Population, 20,000.)—*Medical Officer of Health*, J. A. HARRIS, M.D. (Lond.); *Salary*, £150.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	26·3	...	30·6	...	29·9
Death-rate	14·3	...	15·6	...	15·7
Zymotic death-rate.....	1·55	...	1·42	...	1·17
Phthisis „	0·90	...	0·71	...	0·82
Respiratory „	2·0	...	3·14	...	2·84
Rate of deaths under 1 year to 1,000 births.....	131	...	145	...	132

A decrease in the birth-rate, as compared with last year, equal to 4·3 per 1,000 of the population is accompanied by a decline in the death-rate of 1·3. The former rate is the lowest recorded, and the latter, excepting 1901, is below any year since 1896 (when it was exactly the same). The zymotic rate is

fractionally increased, owing mainly to the deaths from whooping cough, whilst the infantile mortality is rather more favourable. The birth-rates in the sub-divisions for the year under review were as follows:—Chorley 32·8, Croston 26·9, Leyland 24·6, Rivington 22·2, and Brindle 21·9; and the death-rates, Brindle 17·1, Chorley 16·3, Croston 13·5, Leyland 12·7, and Rivington 11·1. The lowest infantile mortality occurred in the Croston and Leyland sub-districts, and the highest in Brindle and Chorley. Whooping cough had a wide spread throughout the district, and caused 13 deaths. Diarrhoea accounted for 7 deaths, but measles only contributed 1 death. The latter disease was not nearly so prevalent as in the preceding year, but in October the White Coppice school had to be closed on account of the disease amongst the scholars. Small-pox, for the first time for many years, occurred in the district, 4 cases being notified, 3 from the township of Wheelton and 1 from Whittle-le-Woods. The first person attacked probably caught the infection from a tramp who called at her house some time before the disease manifested itself. The patient was at once removed to hospital, but shortly afterwards her husband was attacked, and also a relative. The remaining case occurred on a canal boat—a man who had visited, nearly a fortnight before, another boat where a man lay ill, and who was subsequently found to be suffering from small-pox. All the patients promptly received hospital isolation. Scarlet fever (86 cases 5 deaths) was not so prevalent as in 1902, when 175 cases were notified and 7 deaths took place. Coppull produced 41 cases, Anderton 12, and Heath Charnock 8. Sixty-four per cent. of the patients were removed to hospital, and the mortality of these was slightly over 2 per cent., whilst over 10 per cent. of the cases treated at home had a fatal termination. Typhoid fever gave rise to 20 cases 5 deaths, diphtheria 15 cases, corynebacterium 21 cases, and puerperal fever 1 case. The total notifications were 147, and more than one-third were received from Coppull; Whittle-le-Woods, Anderton, and

Wheulton came next, whilst no cases were notified from Heapy, Cuerden, Anglezarke, and Rivington.

Hospital Accommodation is provided for ordinary infectious diseases at the Chorley, &c., joint hospital at Heath Charnock. The Joint Hospital Board have entered into an agreement with the Corporation of Blackburn to rent 10 beds in the Finnington hospital, for the use of the constituent districts, at a yearly rental of £192 10s. During the year 55 cases received hospital isolation, viz., small-pox 4, scarlet fever 49, and typhoid fever 2.

Disinfection.—No apparatus, but the Chorley borough steam appliances are available in case of small-pox.

Water Supply.—Public supplies have been provided at Coppull, Whittle-le-Woods, and neighbouring townships. Anderton and Heath Charnock have also good supplies, but the western portion of the district, including Charnock Richard, Wesh Whittle, Euxton, Eccleston, Mawdesley, Bretherton, &c., is badly in need of a pure water supply. The Surveyor has drawn up a scheme estimated to cost £21,000 for supplying these townships.

Sewerage, Scavenging, &c.—Sewerage disposal works are provided at Wheulton, Whittle, Euxton, and Coppull. For Heath Charnock a scheme has been prepared to cost £800, and has received the sanction of the Local Government Board. The Ribble Joint Committee has complained of unsatisfactory effluents from the Euxton and Coppull outfall works. Scavenging is not well performed, and it will remain unsatisfactory as long as the householders are responsible for this work. For some time Dr. Harris has been endeavouring to persuade his Authority to undertake scavenging, at least in the more populous townships.

Sanitary Inspection. — Bakehouses are described as "good," and slaughter-houses—few in number—are, on the

whole, in fair condition. Dairies and cowsheds—not subject to regulations—do not receive special attention, and factories and workshops are not systematically inspected. The Inspector served 182 notices for nuisance abatement, and practically all were complied with.

Clitheroe (Lancashire portion).—(Area in acres, 33,459; Census Population, 6,726.)—*Medical Officer of Health*, W. P. COUNSELLOR, M.D.; *Salary*, £50.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	17·8 ...	17·2 ...	22·0
Death-rate	13·0 ...	12·9 ...	15·2
Zymotic death-rate.....	0·89 ...	0·89 ...	1·06
Phthisis ,, 	0·29 ...	1·04 ...	0·85
Respiratory ,, 	2·23 ...	2·52 ...	2·82
Rate of deaths under 1 year to 1,000 births.....	141 ...	69 ...	105

With the exception of the infantile mortality, which is increased from 69 to 141, and the phthisis rate reduced from 1·04 to 0·29, the statistics presented by Dr. Counsellor varied but little from those of the preceding year. The birth-rate, excepting 1902, is the lowest recorded for the district. Measles and scarlet fever each contributed 2 deaths, and whooping cough and typhoid fever 1 death each. Owing to an epidemic of measles at Chipping school closure was resorted to. The notifications numbered 55, viz., scarlet fever 46, typhoid fever 4, diphtheria 4, and puerperal fever 1. At least 2 of the typhoid fever cases were due to the insanitary condition of the houses or immediate surroundings. Half of the scarlet fever attacks took place in Chatburn and Downham, and at the former village, in May, the school was closed on account of the prevalence of this disease.

Hospital Accommodation.—A small hospital of 8 beds for the treatment of small-pox cases has recently been erected at

Salt Hill jointly by this Authority, the Corporation of Clitheroe, and the Bowland (Yorks) Rural Council. One case of typhoid fever received hospital isolation.

Disinfection.—No apparatus.

Water Supply.—No progress has been made during the year in the matter of improving water supplies, with the exception of that to a few cottages at Hurst Green. The quality of the water supplied to the village of Pendleton was complained of in the summer. The supplies to the various farms present the greatest difficulties. In the neighbourhood of Chipping there is a great want of a comprehensive scheme.

Sewerage, Scavenging, &c.—Irrigation works have been provided in the chief villages, viz., Chatburn, Whalley, Barrow, and Sabden, and tanks are available in the more scattered localities. In Whalley and Wiswell extension of the sewers has taken place. Scavenging is efficiently carried out by contract in Chatburn, but in the remaining townships the householders are responsible, and consequently the work is not performed satisfactorily.

Sanitary Inspection.—Dairies and cowsheds have increased from 29 to 34. The Inspector reports that they are all well limewashed, but that several require more light, and at 2 the water supply is insufficient. The condition of slaughterhouses—12 in number—has been “uniformly satisfactory, with one exception.” Bakehouses are said to be in good condition. The workshops and work places in the district underwent examination, and a few minor defects were discovered. Fourteen verbal and 43 legal notices were served for the abatement of nuisances. In 5 instances the necessary work was not accomplished until after legal proceedings had been instituted.

Fylde.—(Area in acres, 38,768; Estimated Population, 10,479).

Medical Officer of Health, CHARLES COURT, M.B.; *Salary*, £50.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	26·7	...	28·3	...	28·0
Death-rate	14·7	...	13·9	...	15·4
Zymotic death-rate.....	1·48	...	1·58	...	1·35
Phthisis ,,	0·83	...	1·05	...	1·05
Respiratory ,,	1·86	...	1·23	...	2·17
Rate of deaths under 1 year to 1,000 births.....	125	..	74	...	118

On the 15th of April, 1903, this district sustained a loss of 1,346 acres, and an estimated population of 1,400, by the formation of the township of Bispham-with-Norbreck into an Urban District. The statistics for the township named for the period it formed part of the rural area are included in the above averages. As compared with last year the birth-rate shows a decrease of 1·6 per 1,000, whilst the death-rate is increased 0·8. The infant rate rose from 74 per 1,000 births to 125. Dr. Court reports that many of the infant deaths are due, to a great extent, to the children being nursed out whilst the mother follows her employment in the mill. Improper feeding also tends, in no small degree, to increase the infantile mortality. The death-rate in the parishes varied from 32·3 in Elswick, 21·8 in Newton-with-Scales, 21·1 in Freckleton, 18·7 in Weeton-with-Preese, 18·1 in Westby-with-Plumpton, to 12·5 in Marton, 10·6 in Little Eccleston-with-Larbreck, 6·9 in Carleton, 6·0 in Treales, Roseacre, and Wharles, and nil in Greenhalgh-with-Thistleton. Measles did not give rise to any fatality, but on one occasion it was necessary to close a school on account of the presence of this disease. Diarrhœa caused 4 deaths, and whooping cough 1 death. Small-pox gave rise to 3 cases—all in Treales—and 2 had a fatal termination. The infection in the first instance was imported from Preston. The sister of this patient refused to be vaccinated, took the

disease and died. A servant man, of whom the sanitary officials received no information, also became infected and died. Diphtheria—associated with membranous croup—was the cause of much anxiety; 33 cases were notified and 5 deaths took place. Seventy-three per cent. of the attacks took place in the Blackpool and Lytham sub-districts, mainly in those parts that are very low lying, where the soil, after heavy rains, “becomes impregnated with disease germs as the sewage is crowded into the already overflowing ditches and forced along with the surface water into the interior of the houses.” The unsatisfactory state of the water supply in certain portions of the district, especially in Great and Little Marton, is also a source of danger. Scarlet fever was responsible for 25 cases 3 deaths, typhoid fever 6 cases 1 death, erysipelas 3 cases, and puerperal fever 2 cases. The Medical Officer of Health found it necessary to close the following schools—Clifton, Marton, Little Marton, Treales, and Newton, owing to certain diseases being prevalent in those districts.

Hospital Accommodation is available for small-pox at Elswick, and for other infectious diseases at Moss Side (Fylde Joint). Twenty-four cases were removed, viz., small-pox 3, scarlet fever 17, diphtheria 3, and typhoid fever 1. Dr. Court regrets that the hospital is not taken greater advantage of.

Disinfection.—No apparatus.

Water Supply.—The greater part of the district is supplied by the Fylde Water Board. Reference has been made above to the inadequate supply to Marton, where ditches, wells, and stored rain water have, to a great extent, to be relied upon.

Sewerage, Scavenging, &c.—Sewerage schemes are in operation at Wesham and Freckleton, the remainder of the districts draining into tanks and ditches. The sewerage scheme for Wrea Green, mentioned last year, has not made

much progress. Marton suffered during the year from flooding, owing to the excessive growth of vegetable matter in the ditches at the lower parts, and also to want of sufficient cleansing of the ditches. The Parish Council are now taking steps to prevent a recurrence. Scavenging is performed by contract in Wesham only; in other parts the householders have to perform this work.

Sanitary Inspection.—In several districts there is a great deficiency in cottage accommodation. Four houses were condemned owing to their insanitary condition, and others are being dealt with. Slaughter-houses, bakehouses, workshops, &c., have been inspected, and, with few exceptions, were found satisfactory. Dairies and cowsheds, on the whole, have been well kept, but there are several in need of structural improvements. Seven privies were abolished, and the water-carriage system substituted. The Inspector (Mr. Jolly) served 89 notices, and as a result secured the abatement of 95 nuisances, 2 after the institution of legal proceedings.

Garstang.—(Area in acres, 57,380; Estimated Population, 10,437.)—*Medical Officer of Health*, THOMAS FISHER, M.R.C.S.; *Salary*, £70.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	25·6 ...	24·0 ...	23·1
Death-rate	13·7 ...	13·3 ...	13·5
Zymotic death-rate.....	0·57 ...	0·38 ...	0·73
Phthisis „	0·67 ...	0·67 ...	0·68
Respiratory „	1·34 ...	1·53 ...	2·43
Rate of deaths under 1 year to 1,000 births.....	59 ...	67 ...	91

The birth-rate for the year under review is 2·5 per 1,000 above the mean of the preceding decade, and is the highest recorded since 1891. The death-rate is fractionally above the average, but the infantile mortality is the lowest on record.

The township death-rates varied from 21·03 in Garstang, 20·58 in Great Eccleston, 17·82 in Claughton, 17·60 in Winmarleigh, 17·54 in Cabus, to 7·44 in Bleasdale, 6·30 in Catterall, 2·22 in Inskip-with-Sowerby, 1·85 in Forton, and nil in Holleth. Not a single death was ascribed to measles, whooping cough, or diarrhœa. Small-pox gave rise to 1 case in Garstang—source of infection not traced. Scarlet fever (20 cases) was chiefly confined to Barnacre-with-Bonds, Forton, and Kirkland. At the first-named township the school was closed. School closure also took place at Pilling owing to an epidemic of influenza, and at Nateby on account of chicken-pox. The number of cases of typhoid fever (29, with 3 deaths) is the largest on record. Twenty of the attacks took place in the township of Stalmine, and were practically confined to a small area of that township. Dr. Fisher prepared a special report on this subject, from which it appears that the general sanitary condition of the dwellings, drainage, water supply, &c., require the serious attention of the Rural Council. The Medical Officer of Health also states that “if the first case had been removed to hospital very likely no further case would have resulted.” Diphtheria and membranous croup contributed 9 cases 3 deaths, and erysipelas 1 case. The Council have allowed a fee for the voluntary notification of phthisis, but during the year not one report was received, although 12 deaths were registered from this disease.

Hospital Accommodation.—Nil, except for small-pox (at Elswick). The 1 case of small-pox was removed.

Disinfection.—No apparatus. The question of providing steam appliances has been “postponed.” Thirty-five houses and 2 schools were fumigated with formaldehyde gas.

Water Supply.—The Special Water Committee formed to carry out a conjoint scheme have taken an immense amount of trouble to obtain a good and wholesome supply of water,

but so far without success. The chief difficulty appears to be the inability of the Council to arrange terms with the Fylde Water Board.

Sewerage, Scavenging, &c.—The sewage works on the north and south sides of Bowgreave continue to work fairly satisfactorily. Plans and particulars are being prepared for the sewerage of the whole of the east side of Garstang, including Croston Weind. Plans have also been drawn up for the laying of a new sewer in the township of Barnacre-with-Bonds, and the question of improving the Catterall and Claughton sewer is under consideration. The Hambleton sewerage scheme still stands in abeyance. Scavenging of Garstang is carried out in a satisfactory manner by contract, and the Council's employees do the work at Calder Vale; the remainder of the district is left to owners and tenants. Dr. Fisher repeats his recommendation that the Council undertake the scavenging of the more populous districts.

Sanitary Inspection.—Eighteen houses were condemned as unfit for human habitation, and 3 were demolished. Bake-houses, slaughter-houses, and lodging-houses receive periodical inspection, and, on the whole, are in fair order. Dairies and cowsheds are described as "very variable;" they are not subject to regulations. With few exceptions the factories and workshops were in good condition. Twenty-nine canal boats examined revealed 8 infringements of the Act. The Inspector (Mr. Cook) reports on the sanitary work accomplished in his department, which included the following :—

Number of sanitary inspections	2318
„ nuisances abated	257
„ notices served	146
„ workshops inspected	62
„ bakehouses inspected	11
Accumulations of manure removed	5
Old wells cleansed or new wells sunk	9
Legal proceedings	1

Lancaster.—(Area in acres, 54,503; Estimated Population, 8,865).—*Medical Officer of Health*, G. R. PARKER, L.R.C.P. (Lond.); *Salary*, £50.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	25·4 ...	26·2 ...	27·6
Death-rate	14·2 ...	16·7 ...	14·3
Zymotic death-rate	0·83 ...	1·13 ...	1·42
Phthisis ,,	0·78 ...	0·79 ...	1·10
Respiratory ,,	0·78 ...	2·48 ...	2·40
Rate of deaths under 1 year to 1,000 births.....	110 ...	125 ...	126

The statistics presented by Dr. Parker all show reductions as compared with the previous year. The rates of the sub-districts are given below:—

	Birth- rate.	Death- rate.	Zymotic rate.	Infantile Mortality.
Lancaster ...	25·24 ...	5·82 ...	nil. ...	nil.
Heaton	17·93 ...	10·46 ...	nil. ...	166
Warton	27·48 ...	16·15 ...	0·48 ...	122
Ellel	24·61 ...	11·31 ...	0·28 ...	103

Only 3 deaths were ascribed to the principal zymotic diseases, viz., typhoid fever 2, and whooping cough 1. Scarlet fever gave rise to 51 attacks, 48 of which occurred in the Warton sub-district. The disease manifested itself in Warton in the second week in June, and the village has never since been free. The infection probably came from the Furness district. The disease was of a mild type, and unrecognised cases no doubt very materially assisted its spread. Diphtheria only contributed 9 cases, against 25, 10, and 42 in the three preceding years, and, as in the borough of Lancaster, the epidemic now appears to be subsiding. Typhoid fever was the cause of 7 cases, and erysipelas 1 case.

Hospital Accommodation.—Six cases of scarlet fever, and 1 case of typhoid fever were removed to the Lancaster Corporation sanatorium.

Disinfection.—The Authority has not as yet provided the portable steam apparatus recommended by Dr. Parker last year.

Water Supply.—The new water supply to the village of Galgate is an undoubted success, and is gradually becoming more and more appreciated. The supply to Cockerham and its adjacent farms is much in the same condition as formerly. Some few alterations have been made, but the scheme for a public supply is still unaccomplished. The provision of a public supply for Thurnham has not made any progress, and appears “as far off as ever.” Silverdale and Priest Hutton are also badly in need of a satisfactory water supply. The village of Bolton is supplied from the mains of the Lancaster Corporation, and Warton obtains water from the Carnforth Waterworks Co.

Sewerage, Scavenging, &c.—“This Authority is responsible for the maintenance and efficient working of 7 separate sewerage systems, none of which can be described as entirely satisfactory. Great efforts have been made in the past year, and schemes are now under consideration for the improvement of the sewerage systems of Warton and Galgate. The Bolton sewer is now in much better working order, and some extension of the system is in contemplation. The outfall is still, however, far from satisfactory. The Glasson Dock sewer is also in better order than formerly, more attention having been given to flushing. The other three sewerage systems, namely, those of Priest Hutton, Overton, and Middleton, are in the same state as before.” Scavenging is performed by contract in Galgate, Warton, and Thurnham, and is fairly satisfactorily carried out. The contract at Galgate has been varied, and the removal of refuse is now undertaken four times in the summer months and twice in the winter. In Bolton the removal is supposed to be done by the householders themselves, and, as might be expected, is not

satisfactory. Yealand has not, as yet, entered into any contract for the removal of refuse, although it has the power to do so.

Sanitary Inspection.—Systematic inspection of the district has been carried out as in former years; the portions of the district receiving special attention during the year were Warton, Silverdale, and Bolton. A considerable amount of work has been done with regard to slaughter-houses; these are now regularly inspected, and are in a much improved condition. Bakehouses, and the only lodging-house in the district, are in fair order. Since the adoption in 1902 of the model bye-laws under the Dairies and Cowsheds Order, no further action has been taken in this matter. No standard of air space has been fixed for the existing cowsheds, but in the case of any new ones built 600 cubic feet of air space per cow will be required. Some of the cowsheds are suitable for their purpose and fairly sanitary, but the great majority of these places are without a proper supply of air, deficient in drainage, the floors are dirty, and they are “in every way unsuited for the maintenance of a healthy life in the animals whose fate it is to dwell in them continuously for the six months of winter.” Twenty visits were paid to 15 canal boats, and no infringement of the regulations was observed. For some time the Medical Officer of Health has advocated the appointment of an Inspector of Food and Drugs for the district. The nuisances remedied during the year amounted to 96, and notices served 28. Dr. Parker concludes his report by pointing out that the chief matters requiring the attention of the Rural District Council in 1904 are as follow :—

The Warton sewer.

The Galgate sewer.

The Glasson Dock sewer.

The water supply of Cockerham.

„ „ Thurnham.

„ „ Silverdale.

Leigh.—(Area in acres, 11,574 ; Estimated Population, 8,569.)
 —*Medical Officer of Health*, C. CHALLINOR, L.R.C.P. (Lond.);
 D.P.H. ; *Salary*, £100.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate	34.1	...	38.9	...	33.4
Death-rate	16.6	...	17.9	...	17.2
Zymotic death-rate.....	2.56	...	1.29	...	2.06
Phthisis ,, 	0.46	...	0.94	...	0.84
Respiratory ,, 	2.91	...	4.48	...	3.40
Rate of deaths under 1 year to 1,000 births	136	...	163	...	144

With the exception of last year the birth-rate is the highest recorded for nine years, whilst the death-rate is lower than in any of the four preceding years. The zymotic rate is high for a rural district, and double the rate of 1902. The highest birth-rate was obtained in the December quarter, when it equalled 42 per 1,000 of the population, and the September quarter had the lowest rate (27.04 per 1,000). The highest death-rate was attained in the March quarter (20.52), and the lowest in September quarter (12.52). The various averages of the four divisions are set out below:—

	Birth- rate.		Death- rate.		Zymotic rate.		Infantile Mortality.
Lowton.....	33.27	...	19.07	...	2.96	...	188
Kenyon.....	12.5	...	18.23	...	6.07	...	nil.
Astley	42.36	...	16.66	...	3.12	...	139
Culcheth ...	28.4	...	13.79	...	0.86	...	75

Measles—the cause of 4 deaths—was somewhat prevalent during the last quarter at Astley, and school closure had to be resorted to. Diarrhœa and whooping cough contributed 5 and 3 deaths respectively. Small-pox gave rise to 2 cases, both in April. The first person attacked probably contracted the disease from a suspicious case in Manchester ; the source of infection in the second case could not be traced. The usual

precautionary measures were taken, including hospital isolation. Scarlet fever had a wide spread (80 cases, 3 deaths), Lowton with 55 cases suffering most. The chief causes of the outbreak were indiscriminate visiting at infected houses, and unrecognised mild attacks. Owing to the joint hospital being full it was not possible to remove very many cases, thus increasing the liability to a continuance of the disease. Typhoid fever was responsible for 9 cases 6 deaths, membranous croup 2 cases 1 death, erysipelas 5 cases, and puerperal fever 2 cases.

Hospital Accommodation.—Forty-six cases were removed to the joint hospital at Astley, viz., small-pox 2, scarlet fever 38, and typhoid fever 6. Extensions at the hospital are contemplated.

Disinfection.—No apparatus. Houses fumigated numbered 56.

Water Supply satisfactory, obtained from Liverpool for Lowton and Kenyon, from Manchester for Astley, and from Warrington for Culcheth.

Sewerage, Scavenging, &c. — Outfall works have been brought into operation at Lowton Common—the tank treatment, with sprinkler filters, being adopted. The Mersey and Irwell Joint Committee complained of an unsatisfactory effluent from these works, and also from the Glazebury works. Settling tanks are provided for Culcheth, and outfall works for Astley will shortly be commenced. Scavenging is performed by arrangement with farmers and householders.

Sanitary Inspection. — Housing accommodation has improved, especially at Lowton. One insanitary house in this township was condemned. Bakehouses, slaughter-houses, dairies and cowsheds, and factories and workshops are all described as “satisfactory.” One hundred and eighty-five canal boats underwent examination. Notices served amounted to 274, and nuisances remedied 204.

Limehurst.—(Area in acres, 4,772; Census Population, 10,338).—*Medical Officer of Health*, THOMAS COOKE, M.R.C.S.; *Salary*, £40.

Per 1,000 of Population,	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	26·7 ...	30·6 ...	31·9
Death-rate	15·4 ...	14·2 ...	17·9
Zymotic death-rate	1·25 ...	1·35 ...	1·82
Phthisis ,,	0·77 ...	1·83 ...	1·36
Respiratory ,,	2·51 ...	2·32 ...	3·44
Rate of deaths under 1 year to 1,000 births.....	173 ...	116 ...	144

As compared with last year the birth-rate shows a decrease of 3·9, and the death-rate an increase of 1·2 per 1,000 of the population. The zymotic rate is fractionally more favourable, but the rate of deaths under 1 year to 1,000 births rose from 116 to 173. Whooping cough contributed 6 deaths, diphtheria 4 deaths, and typhoid fever, measles, and diarrhoea 1 death each. Small-pox gave rise to 13 cases, all in the first half of the year. Twelve of the attacks took place in the township of Waterloo. The usual precautionary measures were adopted, including hospital isolation, disinfection, &c. The other notifications were scarlet fever 13, typhoid fever 5, diphtheria 14, and erysipelas 2. The majority of the scarlet fever and diphtheria cases occurred at Cross Bank.

Hospital Accommodation.—The 13 small-pox patients were removed to the Ashton-under-Lyne hospital. It is contemplated to form a Joint Board for the erection of an infectious disease hospital. An Inquiry has been held, and sanction of the Local Government Board for borrowing powers is now awaited.

Disinfection.—No apparatus. Sulphur fumigation relied upon.

Water Supply good and pure, obtained from the Ashton-under-Lyne, &c., joint waterworks.

Sewerage, Scavenging, &c.—At Waterloo and Bardsley fair progress has been made with the coupling up of the houses to the intercepting sewers. Scavenging, as performed by contract, is said to be satisfactory.

Sanitary Inspection.—Bakehouses, slaughter-houses, factories, and workshops all appear to be in good condition. The farms—about 130 in number—are spread over a large area, and Dr. Cooke reports that it is impossible for the Inspector to give them proper supervision and, at the same time, carry on his other duties. Additional inspectorial assistance is required. Notices served amounted to 175, and nuisances remedied 275.

Lunesdale.—(Area in acres, 76,267; Census Population, 6,948.) — *Medical Officer of Health*, W. H. STOTT, L.R.C.P.E.; *Salary*, £20.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	20·8	...	21·1	...	22·9
Death-rate	13·9	...	15·1	...	13·4
Zymotic death-rate.....	0·71	...	1·15	...	0·84
Phthisis ,, 	0·57	...	1·15	...	0·83
Respiratory ,, 	1·29	...	2·01	...	1·69
Rate of deaths under 1 year to 1,000 births.....	82	...	115	...	96

The birth-rate is the lowest recorded since 1894, and is 2·1 per 1,000 of the population below the average of the preceding decade. It varied from 28·57 in the Arkholme district to 20·16 in Tunstall, 18·90 in Wray, and 18·10 in Caton. The general death-rate was 1·2 below the average for 1902, but 0·5 higher than the mean of the 10 years 1893-1902. The highest rate (21·62) was recorded in Wray, and the lowest

(9.22) in Caton. Measles—notifiable in this district—gave rise to 9 cases, but no death. Whooping cough contributed 2 deaths, and diarrhoea 1 death. Small-pox was the cause of 3 cases 1 death. The first case occurred at Red Well—a labourer on the Thirlmere pipe track, who contracted the disease from an infected lodging-house in Lancaster. He was promptly isolated in hospital. The barn that he and several other workmen had been living in was thoroughly disinfected, and the contacts were vaccinated or re-vaccinated. Five days later another workman was attacked, and shortly afterwards a third case was reported. The latter had never been vaccinated, and when asked at the time of the first outbreak he refused. He developed a very malignant type of the disease and died. The barn was again disinfected after the removal to hospital of each patient, and altogether more than 100 adult persons in the immediate vicinity were re-vaccinated. Scarlet fever was responsible for 5 cases 1 death, typhoid fever 4 cases, erysipelas 4 cases 1 death, and chicken-pox (notifiable) 4 cases.

Hospital Accommodation.—A small hospital at Farleton, near Hornby, is available. The 3 cases of small-pox were treated there.

Disinfection.—No apparatus.

Water Supply.—Dr. Stott again reports on the necessity of a proper water supply for a portion of Leck village, Cowan Bridge, and Whittington. A scheme for supplying Melling from a stream on Melling Moor is now in the hands of the Surveyor, but nothing has yet been done towards improving the supply to the village of Arkholme.

Sewerage, Scavenging, &c.—Sewerage schemes are in operation in Caton, Halton, Hornby, and Wray. At the three latter villages they work fairly satisfactorily, and steps are being taken to improve the Caton system. It is proposed to construct 2 open septic tanks, 2 bacteria beds, and a small area

of storm water filters for the village named. Scavenging is carried out by the respective Parish Councils at Halton and Caton, and in the other townships a "voluntary" system is in vogue.

Sanitary Inspection.—There are no public bakehouses. Slaughter-houses—5 in number—are well kept, and comply with the bye-laws. Little attention is paid to dairies and cowsheds, and regulations are not in force. The 2 factories in the district—at Caton and Halton—are in satisfactory condition. Thirteen canal boats were examined. The Inspector served 26 notices for nuisance abatement.

Preston. — (Area in acres, 52,929; Estimated Population, excluding Institutions, 15,997.)—*Medical Officer of Health*, CHARLES J. TRIMBLE, L.R.C.P.E., D.P.H.; *Salary*, £75.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	25·6	...	25·8	...	25·7
Death-rate	14·2	...	14·2	...	15·3
Zymotic death-rate.....	0·87	...	1·06	...	1·14
Phthisis ,,	0·62	...	0·62	...	0·77
Respiratory ,,	2·56	...	2·50	...	2·79
Rate of deaths under 1 year to 1,000 births.....	121	...	130	...	129

The statistics presented by Dr. Trimble are very similar to those of the previous year. The birth-rate is only fractionally reduced, whilst the death-rate is exactly the same. The zymotic and infant rates are rather more favourable. The highest birth-rates were attained in the townships of Whittingham (43·46), Howick (39·60), Little Hoole (35·92), Hother-sall (35·28), Much Hoole (33·65), and Hutton (33·49), and the lowest in Samlesbury (18·60), Houghton (14·65), Dutton (13·10), and Barton (7·09). The death-rate was highest in Cuerdale (39·21), Much Hoole (25·63), Ribchester (22·63), Dutton

(21·80), and Howick (19·80), and the lowest in Samlesbury (10·46), Grimsargh (8·83), Little Hoole (7·96), Hothersall (7·04), and Broughton (6·49). The deaths of persons not belonging to the district in the County Asylum and other public institutions—amounting to 221—are excluded from the statistics of this district. Measles prevailed extensively in September at Farington, in November at Samlesbury, and in December at Penwortham. At the first mentioned township school closure was successfully resorted to, and in the other districts attacked rigid exclusion from school of children from infected houses had the desired affect. Whooping cough broke out at Fernyhalgh and Penwortham in March and July respectively, and in both instances schools were closed with beneficial results. Fortunately these diseases were mild in character, as the former caused only 1 death, and the latter 4 deaths. Diarrhœa also contributed 4 deaths. A case of supposed small-pox was notified, but on further examination the diagnosis was not confirmed. Scarlet fever (44 cases 1 death) was present all through the year. Fifteen townships were invaded. The disease was in several instances spread by unrecognised cases. In March Knowle Green school was closed for a month on account of the prevalence of this disease. In one instance a conviction was obtained against a medical practitioner for not reporting some cases of scarlet fever. Typhoid fever contributed 6 cases 3 deaths, diphtheria 7 cases 1 death, erysipelas 2 cases.

Hospital Accommodation.—The joint hospital at Fulwood for infectious cases, other than small-pox, is in an advanced state; and the joint small-pox hospital at Elswick is nearing completion.

Disinfection.—No special appliances. Sixty-nine houses were fumigated.

Water Supply—"Extension of the water mains still progresses." The portion of the rural district north of the Ribbl

derives its supply by arrangement from the Fulwood Urban Council's waterworks, and year by year, an increased distribution is recorded. The townships south of the Ribble are supplied by the Preston Corporation. Certain portions of the combined townships of Lea, Ashton, Ingol, and Cottam are in want of an improved supply, but several difficulties are in the way, the most formidable of which is finance. Schemes have been under consideration during the year for improving the water supplies of Samlesbury, the northern portion of the township of Farington, the village of Ribchester, and a portion of Charnock Moss.

Sewerage, Scavenging, &c.—The Ribble Joint Committee have called upon the Council to adopt efficient sewerage schemes for Ribchester and Grimsargh, and, in consequence, the Rural Council have resolved to apply to the Local Government Board for sanction to borrow £3,000 for works of sewerage and sewage disposal at Grimsargh, and £400 for additions to the existing Ribchester sewage works. The works established two years ago at Farington “appear to have given satisfactory results.” The sewerage and sewage disposal scheme for the township of Penwortham, estimated to cost over £11,000, has received the sanction of the Local Government Board, and the work will shortly be commenced. The outfall works will consist of over 5 acres of land, with septic tank and bacteriological filters. The question of sewerage and sewage disposal at Longton, Howick, &c., must, in the near future, engage the serious attention of the Council. In several of the townships the respective Parochial Committees are entrusted with the work of scavenging, and Dr. Trimble again strongly urges other townships to adopt the same course.

Sanitary Inspection.—“There has been considerable activity towards the improvement of the sanitary conditions of the district.” The usual routine work of inspection has been carried out, and special examinations made of certain areas.

The Medical Officer of Health has repeatedly asked his Council to register all slaughter-houses in their district, but, so far, without success. A marked improvement is noted in the condition of the dairy farms as a result of constant inspections. Factories (17), workshops (36), and workplaces (12) have been visited, and these all appear to be in conformity with the Act. Forty visits have been made to the canal for the purpose of inspection, and 35 boats were examined, no serious defects being noticed. The Inspector (Mr. Ashcroft) reports the service of 116 notices; the nuisances dealt with included defective drains 48, insanitary closets, &c., 130, house roofs and spouts out of repair 26, polluted water supplies 10, and miscellaneous nuisances 26.

Sefton. — (Area in acres, 16,949; Estimated Population, 11,260.) — *Medical Officer of Health*, J. C. BRADSHAW, L.R.C.P.E., D.P.H.; *Salary*, £100.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	28·8 ...	28·7 ...	23·4
Death-rate	13·7 ...	14·2 ...	13·3
Zymotic death-rate	1·59 ...	0·58 ...	1·06
Phthisis ,, 	1·15 ...	0·97 ...	1·19
Respiratory ,, 	1·95 ...	2·92 ...	2·34
Rate of deaths under 1 year to 1,000 births.....	138 ...	105 ...	110

The increase in the birth-rate reported last year has been maintained during the year under review. The rate for 1903 is the highest recorded, and 5·4 per 1000 above the mean of the preceding decade. The death-rate, although slightly more favourable than last year, is fractionally above the average. The zymotic and infant rates are also higher. Diarrhœa, with 7 deaths, was the most fatal of the principal zymotics. Measles contributed 3 deaths, and whooping cough 1 death. Small-pox gave rise to 24 cases—all imported from Liverpool. Three

terminated fatally. Thirteen attacks took place in Fazakerley, 5 in Orrell and Ford, 2 in Kirkby, and 1 in each of the townships of West Derby, Croxteth, Netherton, and Aintree. Prompt removal to hospital took place, and the usual precautionary measures were adopted. Scarlet fever had an increased prevalence, 70 cases being reported with 3 deaths, against 57 cases 2 deaths last year, and 30 cases 1 death in 1901. Diphtheria—associated with membranous croup—was responsible for 20 cases 1 death, typhoid fever 4 cases, erysipelas 9 cases, and puerperal fever 1 case.

Hospital Accommodation.—A cottage hospital—14 beds—is provided at Kirkby, and arrangements exist by which infectious cases can be taken to the Liverpool and Bootle hospitals. Altogether during the year 51 patients received hospital isolation, viz., small-pox 24, scarlet fever 21, and diphtheria 6.

Disinfection.—Bedding, clothing, &c., is disinfected by the Liverpool officials under agreement.

Water Supply is obtained partly from the Liverpool Corporation and partly from wells. The township of Aintree is now entirely supplied by Liverpool, and the Council have decided to have the Corporation mains extended to Sefton, Netherton, and Lunt.

Sewerage, Scavenging, &c.—The sewage of a portion of Fazakerley is turned into the Liverpool sewers. At Kirkby Park a septic tank is in operation, and “does its work well.” Complaints have been made regarding the pollution of Dey’s brook, and Mab Lane brook, West Derby; both streams are now receiving attention. Scavenging in West Derby is performed by contract, but in the other townships the householders are responsible.

Sanitary Inspection.—Bakehouses, slaughter-houses, and lodging-houses—periodically inspected—appear to be in good

condition. Dairies and cowsheds are kept clean, but many of the latter are capable of much improvement as regards lighting, ventilation, paving, and drainage. There are only two factories in the district, and they are reported as satisfactory. The Inspector made 578 inspections regarding nuisances, with the result that 245 sanitary defects were remedied.

Ulverston.—(Area in acres, 127,871; Census Population, 17,716.)—*Medical Officer of Health*, G. H. PATTERSON, M.R.C.S., D.P.H.; *Salary*, £180.

Per 1,000 of Population.	1903.		1902.		Mean of 10 years, 1893-1902.
Birth-rate.....	22·9	...	22·4	...	22·8
Death-rate	13·1	...	13·0	...	13·1
Zymotic death-rate.....	0·84	...	1·29	...	0·63
Phthisis ,,	1·24	...	0·50	...	0·87
Respiratory ,,	1·12	...	1·63	...	1·71
Rate of deaths under 1 year to 1,000 births.....	73	...	83	...	84

The statistics presented by Dr. Patterson for the year 1903 are almost identical with the averages of the preceding decade, and vary little from those of 1902. The divisional rates are as follows :—

	Birth- rate.		Death- rate.		Zymotic rate.		Infantile Mortality.
Cartmel	24·5	...	14·0	...	1·4	...	104
Hawkshead	24·7	...	11·8	...	0·28	...	56
High Furness ...	21·5	...	12·8	...	0·22	...	41
Low Furness ...	21·5	...	11·5	...	1·2	...	85

Measles gave rise to only one death, but on account of the epidemic prevalence of this disease it was found necessary to close the Hawkshead schools in September, the Aulthurst-side schools in November, and those at Pennington in December. Six deaths were ascribed to diarrhoea. There was a marked decrease in the number of scarlet fever cases

reported, viz., 33 with 2 deaths, as compared with 70 cases 2 deaths in the preceding year. It was considered advisable to close the Allithwaite, Pennington, Cartmel, and Newton-in-Cartmel schools, with a view to preventing the spread of infection. The continuance of the disease was due, in a great measure, to the fact that mild cases—capable of spreading infection—were not recognised, as children were frequently met with suffering from sore throat and desquamating, the real nature of the illness not having been suspected. Typhoid fever contributed 9 cases 1 death. The majority of these cases could not be attributed to insanitary conditions, but at Gleaston, however, 4 cases were most likely caused by drinking water obtained from a shallow well which, on chemical analysis, was found to be highly polluted. Diphtheria was the cause of 32 cases 5 deaths, the disease being most troublesome in the Low Furness division, spreading, very probably, from the urban district of Ulverston. Erysipelas caused 8 cases.

Hospital Accommodation.—A joint hospital is provided at High Carley, and 26 patients were removed from this district, viz., scarlet fever 14, diphtheria 11, and typhoid fever 1.

Disinfection.—No apparatus. Fifty-six houses and schools were fumigated.

Water Supply.—Cartmel Division:—Nearly all the houses in the village of Allithwaite are now connected with the mains provided by the District Council, and improved supplies have been laid on to the village of Staveley and the hamlet of Bamber. A contract has been entered into for providing the villages of Lindale and Headhouse with an ample supply from the mains of the Grange Urban Council. Schemes are also in progress for improving the supply of Flookburgh. Hawkshead Division:—The provision of a proper supply to Claife is under consideration, and the new water service to Hawkshead is well in hand. High Furness Division:—Plans are in course of preparation for a scheme to supply Coniston,

and a draft scheme is being considered for Beckside. Low Furness Division:—The village of Scales relies almost entirely upon rain water.

Sewerage, Scavenging, &c.—Cartmel Division:—The sewerage scheme for the village of Cark has been satisfactorily carried out, and at Kent's Bank the Grange sewer has been extended so that the house connections can now be made. Negotiations are proceeding for a small scheme to deal with the drainage of a group of houses at the lower end of Lindale, and a system of sewerage will, it is hoped, shortly be executed for the upper portion of Backbarrow. Hawkshead Division:—A scheme of sewerage for the village of Bouth, drafted by the Surveyor, had to be abandoned on account of the cost entailed by somewhat difficult physical conditions, and a less elaborate scheme is now under consideration. High Furness Division:—A system of sewerage for the village of Saudside is in progress, and arrangements are under consideration for connecting the greater portion of Coniston village to a main sewer in the vicinity. Low Furness Division:—Dr. Patterson again urges that no further time be lost in carrying out a system of sewerage and sewage disposal for the village of Gleaston. With regard to scavenging, the Medical Officer of Health reports that there is a growing disposition to exercise the Urban powers conferred by the Local Government Board, enabling the District Council to make arrangements for the collection and removal of house refuse.

Sanitary Inspection.—One house was condemned as unfit for human habitation. Bakehouses are described as "fair," and slaughter-houses as "good." Dairies and cowsheds are said to be "bad generally." New dairy, &c., regulations are under consideration. From the summaries presented by the Divisional Inspectors (Messrs. Brocklesby, Cannan, Ellwood, and Gardner) it appears that 2,002 houses and premises were inspected, resulting in the abatement of 235 nuisances. Notices served numbered 193.

Warrington.—(Area in acres, 19,360 ; Estimated Population, 11,387.)—*Medical Officer of Health*, R. SEPHTON, L.R.C.P.E. ; *Salary*, £150.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	26·9 ...	27·8 ...	28·0
Death-rate	13·1 ...	12·6 ...	13·7
Zymotic death-rate	1·05 ...	1·26 ...	1·82
Phthisis „	0·79 ...	0·54 ...	0·83
Respiratory „	2·45 ...	2·44 ...	2·24
Rate of deaths under 1 year to 1,000 births.....	110 ...	74 ...	123

The population of the Asylum at Winwick (about 2,000) and the deaths occurring therein (278) are excluded from the above statistics. A reduction in the birth-rate of 0·9 as compared with last year, is accompanied by an increase in the death-rate equal to 0·5 per 1,000 of the population. The averages of the three sub-divisions are given below :—

	Birth- rate.	Death- rate.	Zymotic rate.	Infantile Mortality.
Sankey	29·3 ...	14·1 ...	1·6	} 110
Winwick	31·1 ...	11·3 ...	1·5	
Rixton	18·7 ...	10·6 ...	nil.	

An outbreak of measles occurred at Orford in November, and extended to Padgate and Croft. In each of these townships schools had to be closed. Fortunately only one death was ascribed to this disease. Diarrhœa gave rise to 7 fatalities, and whooping cough 2. Scarlet fever was present throughout the year, and caused 40 cases 1 death. Typhoid fever was responsible for 4 cases (1 fatal), diphtheria 2 cases, and erysipelas 8 cases.

Hospital Accommodation.—Seven cases of scarlet fever and 1 case of typhoid fever were removed to the Warrington Corporation hospital.

Disinfection.—Steam apparatus at the hospital is available.

Water Supply.—The greater portion of the district is well supplied from the Warrington waterworks—the less populous places rely on wells. Martincroft and Rixton-with-Glazebury are in need of a better supply.

Sewerage, Scavenging, &c.—The sewage works at Burton-wood “continue satisfactory.” In the country districts, sewage, as a rule, finds its way into ditches. Scavenging is carried out by contract.

Sanitary Inspection.—Twenty-six houses were repaired and rendered habitable after notice had been served. Bake-houses, slaughter-houses, and lodging-houses are all described as “satisfactory.” Dairies and cowsheds are kept clean, and factories (14) and workshops (27) comply with the requirements. Thirty canal boats were examined, and serious infringements of the Act were discovered. The long complained nuisance from the Longford refuse dépôt of the Warrington Corporation is now receiving attention. The Inspector (Mr. Kerfoot) secured the abatement of 191 nuisances, 3 after the institution of legal proceedings.

West Lancashire.—(Area in acres, 69,051; Estimated Population, 27,488.)—*Medical Officer of Health*, G. E. SCHOLEFIELD, M.D., D.P.H; *Salary*, £450.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate.....	22·2 ...	23·3 ...	25·8
Death-rate	12·6 ...	13·8 ...	14·4
Zymotic death-rate.....	0·83 ...	1·05 ...	1·20
Phthisis ,, 	0·80 ...	1·02 ...	1·10
Respiratory ,, 	1·38 ...	2·26 ...	2·50
Rate of deaths under 1 year to 1,000 births.....	98 ...	129 ...	125

The birth-rate is the lowest recorded for the district, and 1·1 per 1,000 of the population below that of 1902, and 3·6 below the average of the 10 preceding years. The highest

birth-rates occurred in Lydiate (34·54), Melling (28·69), and Bickerstaffe (26·98), and the lowest in Altcar (11·23), and Bispham (2·95). The general death-rate is the lowest since 1896, and 1·8 below the mean of the 10 years 1893-1902. The township death-rates varied from 20·15 in Lydiate, 16·28 in North Meols, 16·21 in Ainsdale, to 9·73 in Scarisbrick, 9·35 in Aughton, 7·49 in Altcar, and 5·59 in Simonswood. The zymotic death-rate and the rate of deaths under 1 year to 1,000 births compare favourably with previous years, the latter being lower than any recorded excepting 1896, when it was exactly the same. Measles is voluntarily notifiable in this district, and 262 cases were reported; 2 deaths took place. Schools were closed on account of this disease at Formby (on three occasions), at Ainsdale (twice), and at Banks. Whooping cough and diarrhoea were less prevalent than in 1902; the former caused 4 deaths and the latter 6. Small-pox was responsible for 15 cases with 2 deaths, the townships affected being Altcar 7, Maghull 4, Melling 2, Bickerstaffe 1, and Tarleton 1. At the commencement of February a case was notified from a house in Maghull; two days afterwards a second case commenced, and on the seventh day the mother of the first patient was found to be suffering from the disease in a malignant form, which rapidly proved fatal. The source of infection was apparent—a relative from an infected house in Liverpool having visited Maghull about 12 days before the cases commenced. The other members of the family were re-vaccinated, and all escaped but one boy, who was not re-vaccinated until 8 days after the outbreak in the house, owing to scarcity of lymph. This boy was then successfully vaccinated, but at that time he was suffering from small-pox in a very mild form, only about 6 pustules being discoverable. His father and brother, who had not been vaccinated since childhood, had the disease much more severely, in fact these 4 cases showed in a remarkable manner that the longer the time which had elapsed since vaccination had been performed the more severe was the attack of small-pox. The next 2 cases were in

Melling, commencing within a few days of each other, but having no connection. One apparently contracted the disease while visiting in Yorkshire, and the other from a Liverpool source. The disease then appeared in Bickerstaffe, from which township 1 case was reported, the source again being Liverpool. Altcar was next affected, one of the militiamen in the camp, after being in residence three days, was taken ill, but did not report himself until two days had elapsed. In the meantime he was sleeping in a tent with several other men. Strict precautions were taken to prevent the spread of the disease, all who were known to have been in contact with the patient were quarantined away from the rest of the troops, and over 1,000 men were re-vaccinated as quickly as possible. I also advised that the whole camp should be quarantined, but the military authorities objected to this course, maintaining it was unnecessary. Thirteen days after the discovery of the first case, 4 others were attacked, followed by 2 more, making 7 in all. The military authorities then decided to impose quarantine on the camp, and confined all men to quarters for 17 days. There was no spread of the disease in the surrounding districts. In August the last case appeared, in Tarleton, the source of infection probably being Chorley. On the occasion of each outbreak strict precautions were taken to prevent any further spread of the disease, all persons who had been in contact with the cases, either directly or indirectly, being urged to be re-vaccinated, and disinfection was performed most carefully in every instance. With the exception of the boy at Maghull, and the cases in the camp at Altcar, there was no further spread of the disease among any of the persons who had been in contact with the patients. Thirteen of the cases were treated in the tent hospital, which had been provided in December of the previous year, 1 case was removed to the hospital at Fazakerley, and proved fatal, and 1 died at home, the patient being too ill to remove when first seen. There was a marked decline in the number of cases of scarlet fever as compared with last year, viz., 54 against 115. This number is

the lowest recorded in any year since the adoption of the Notification Act in 1890. Sixty-two per cent. of the patients received hospital isolation. Typhoid fever contributed 26 cases 7 deaths. In several the disease was probably caused by insanitary conditions of houses and surroundings, or by drinking polluted well water. Two instances are given where the attack was due to ingestion of infected shell fish, viz.: (a) Female, aged 43; this patient, along with 3 others in the same family, were taken ill after eating cockles. All, except the patient, were violently sick, and recovered in the course of a few days. She, however, developed symptoms of enteric fever some 12 or 14 days afterwards. (b) Female, aged 41; had been eating freely of cockles about a fortnight previous to commencement of illness, the cockles having been gathered from the bank not far from the outlet of the Crosby sewer. In 2 other instances there was a definite history of the taking of shell-fish (oysters) 14 days previous to commencement of illness. Diphtheria—associated with membranous croup—gave rise to 23 cases 2 deaths, erysipelas 10 cases, and puerperal fever 4 cases.

Hospital Accommodation is provided for ordinary infectious diseases at Holly House, Aughton; and, for small-pox, a tent hospital has been erected capable of receiving eight patients. As already stated, 14 small-pox patients received hospital isolation—13 in the tent hospital, and 1 at Liverpool; in addition, 48 patients were treated at Holly House, viz., scarlet fever 34, typhoid fever 8, diphtheria 5, and 1 “doubtful” case.

Disinfection.—The Thresh steam apparatus at the hospital was used 143 times for the disinfection of 7,980 articles. Three hundred and fifty-two rooms in 107 infected houses were treated by spraying and fumigation.

Water Supply.—The district is, on the whole, well supplied with water of excellent quality. The Southport Waterworks Company sunk two wells in the township of Aughton, and, from this source, a large portion of the district is supplied.

The water is hard, but otherwise of good quality, and the quantity is unlimited. Other supplies are obtained from the Preston Rural District Council, and from wells. Of the 16 samples of well water analysed during the year, 2 were of fair quality, 10 contained too much organic matter to be safe for domestic use, 3 were polluted with animal matter, and 1 unsatisfactory in other ways.

Sewerage, Scavenging, &c.—Aughton:—The sewage of the southern area is carried to outfall works, and there received into four closed tanks. An additional filter will shortly be provided at these works. The sewage from the northern area is, by agreement, turned into the Ormskirk sewers. Ainsdale:—The sewerage scheme reported last year for this township has not been carried out, on account of the decision of the County Council to transfer Ainsdale to the urban district of Birkdale. Formby:—On April 4th the sanction of the Local Government Board was received to the application to borrow £41,000 for the purpose of sewerage this district. A contract to carry out the necessary work has now been entered into. Bickerstaffe:—A small area of this township is connected to the Ormskirk sewers. The remainder of the district is on the cesspool system, with its attendant disadvantages. Scavenging is performed by contract in Ainsdale and the northern part of Aughton, and at Formby the Parochial Committee supervise this work. In other townships the householders are responsible.

Sanitary Inspection.—House accommodation, on the whole, is fair; but there are still in existence, in some parts, low, ill-ventilated houses. One house was condemned, but made habitable after notice. Bakehouses, slaughterhouses, lodging-houses, and dairies and cowsheds have been regularly visited, and found on the whole in a satisfactory condition. Inspections of factories and workshops brought to light many sanitary defects, which were remedied. Fifty-three canal boats underwent examination. The Inspectors (Messrs. Peach and Bond) report on a considerable amount of work

accomplished in the various townships under their charge. Altogether, 719 nuisances were abated after the service of 295 notices. Legal proceedings were ordered on six occasions, but, as the notices were complied with within the specified time, no further action was necessary.

Whiston. -- (Area in acres, 31,281; Estimated Population, 19,860.) — *Medical Officer of Health*, EGERTON F. HALL, M.D.; *Salary*, £150.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	25·5 ...	26·7 ...	26·5
Death-rate	12·0 ...	12·4 ...	12·8
Zymotic death-rate.....	1·20 ...	1·28 ...	1·55
Phthisis „	0·60 ...	0·61 ...	0·72
Respiratory „	2·16 ...	2·31 ...	2·48
Rate of deaths under 1 year to 1,000 births.....	86 ...	126 ...	122

The birth and death rates are reduced 1·2 and 0·4 per 1,000 of the population respectively as compared with last year. The zymotic rate is fractionally reduced, whilst the infantile mortality declined from 126 per 1,000 births to 86. Two schools were closed on account of the prevalence of measles, but no death was ascribed to this disease. Diarrhœa contributed 7 deaths, and whooping cough 2 deaths. Small-pox was the cause of 11 cases and 3 deaths. The first attack occurred in January, the disease being brought by a tramp to the workhouse. Of the remaining persons attacked two caught the disease in Liverpool, and one in St. Helens. The 3 deaths which occurred in January and February were of men aged 50, 64, and 71 years respectively, believed to have obtained the infection from a tramp at the workhouse; they all originally belonged to Widnes, but had been in the workhouse for several years. The whole of the cases were isolated in the sanatorium. Scarlet

fever was prevalent and necessitated school closure. Altogether 84 cases were reported, and 2 deaths resulted. On two occasions the disease was imported, and in another instance a child was discovered attending school whilst "peeling." Typhoid fever was responsible for 4 cases 2 deaths, diphtheria and membranous croup 19 cases 7 deaths, erysipelas 10 cases, and puerperal fever 3 cases.

Hospital Accommodation.—The hospital was used for the solution of 11 cases of small-pox, 55 scarlet fever cases, 5 diphtheria, and 1 typhoid fever.

Disinfection.—Steam apparatus available. Houses are fumigated with sulphur.

Water Supply on the whole good. The township of Bold is in need of a better supply.

Sewerage, Scavenging, &c.—The sewage farm at Rainhill is said to be in "good order," and the temporary sewage scheme at Eccleston Park is "working fairly well." At Whiston, a site for new bacteria beds, &c., has been decided upon, and steps will shortly be taken to construct the necessary works. A new sewer has been laid at Halebank. Scavenging is said to be satisfactorily performed.

Sanitary Inspection.—Two insanitary houses were closed. A special report was made regarding the sanitary condition of the 10 bakehouses from which it appears that a few require alteration to make them comply with the Act. Slaughterhouses are described as "good." Little attention is paid to dairies and cowsheds, and these places are not subject to regulation. The Inspector (Mr. Fraser) gives details of the sanitary work accomplished in the various townships; altogether 157 nuisances were abated after the service of 71 notices. To remove a nuisance at Bold caused by the keeping of pigs legal proceedings had to be instituted.

Wigan. — (Area in acres, 11,695; Estimated Population, 6,413.)—*Medical Officer of Health*, J. H. WILSON, M.D.; *Salary*, £80.

Per 1,000 of Population.	1903.	1902.	Mean of 10 years, 1893-1902.
Birth-rate	27·9 ...	30·9 ...	31·6
Death-rate	14·9 ...	15·1 ...	16·5
Zymotic death-rate.....	0·93 ...	1·73 ...	1·80
Phthisis „	0·31 ...	0·31 ...	1·00
Respiratory „	2·96 ...	2·53 ...	3·64
Rate of deaths under 1 year to 1,000 births	145 ...	127 ...	138

The birth-rate, with the exception of 1901, is below any recorded in the preceding decennial period, and is reduced 3·0 per 1,000 of the population as compared with last year; the death-rate is fractionally reduced. The zymotic rate shows a decrease of 0·80, but the infantile mortality is not so favourable. The township of Shevington had a birth-rate of 35·19, Wrightington 27·0, Parbold 25·59, Haigh 23·25, Dalton 23·09, and Worthington 22·64; and the death-rates were Worthington 26·41, Parbold 20·47, Dalton 18·47, Haigh 15·98, Wrightington 12·75, and Shevington 10·61. Measles did not give rise to a single fatality, but whooping cough and diarrhœa each caused 1 death. The infectious disease notifications numbered 79, or 4 less than in the previous year, notwithstanding an outbreak of scarlet fever amongst the children attending Red Rock school. Scarlet fever has been reported in all the townships causing altogether 50 cases 2 deaths. Typhoid fever contributed 8 cases 1 death, diphtheria and membranous croup 7 cases 1 death, erysipelas 13 cases 1 death, and puerperal fever 1 case.

Hospital Accommodation.—A cottage hospital (6 beds) is provided for small-pox only. Under an Order of the County Council this district is associated with neighbouring Authorities for the purpose of providing a small-pox hospital.

Disinfection.—No apparatus; sulphur fumigation relied upon.

Water Supply.—Shevington, Appleby Bridge portion of Wrightington, Haigh, and Parbold have public supplies, constant, and of good quality. A scheme was prepared for supplying Wrightington with water, but it was then discovered that the proposed water would be “unfit for drinking unless subjected to some form of chemical treatment before distribution.” Dalton and Worthington have a plentiful supply of water drawn from wells.

Sewerage, Scavenging, &c.—During the year a Local Government Board Inquiry was held into a proposed sewerage and sewage disposal scheme for a portion of the township of Haigh, but it was not approved. The work of draining Crooke (Shevington), and the construction of filter beds, &c., will shortly be commenced; the scheme for the drainage of the Almond Brook, Broad-o’th’-Lane, and Gathurst portions of the township is in abeyance. Scavenging, as carried out by contract, is said to be satisfactory.

Sanitary Inspection.—Bakehouses are described as “clean,” and the 2 slaughter-houses are in good order. Dairies and cowsheds appear to be fairly well kept, but, unfortunately, are not subject to bye-laws. Factories and workshops receive periodical inspection. A circular was issued by Dr. Wilson and distributed in the mining portion of the district, drawing attention to the grave dangers to miners by the introduction of Ankylostomiasis (Miners’ Worm Disease), and showing the precautions necessary to be observed. Thirty-seven inspections of canal boats revealed two infringements of the Act. The Inspector served 15 notices.

*EXTRACT FROM THE METEOROLOGICAL REPORT

BY THE

REV. W. SIDGREAVES, S.J., F.R.A.S.,

*Of Stonyhurst College Observatory.*SUMMARY OF OBSERVATIONS
FOR 1903.

Results of Observations taken during the Year.			Mean for the last 56 Years.
Mean Reading of the Barometer	...	29·462in.	29·493in.
Highest	„ on Jan. 14th	30·224in.	30·285in.
Lowest	„ on Mar. 2nd	28·200in.	28·251in.
Range of Barometer Readings...	...	2·024in.	2·034in.
Highest Reading of a Max. Therm. on May 31st	... ..	76·1	81·8
Lowest Reading of a Min. Therm. on January 14th	... ..	22·5	15·3
Range of Thermometer Readings	...	53·6	66·5
Mean of all the Highest Readings	...	52·5	54·9
Mean of all the Lowest Readings	...	42·5	40·6
Mean Daily Range	... ..	10·0	14·3
Deduced Yearly Mean (from Mean of Max. and Min.)	... ..	47·5	46·8
Mean Temperature from Dry Bulb	...	47·2	46·9
Adopted Mean Temperature	...	47·4	46·9
Mean Temperature of Evaporation	...	44·7	44·5
Mean Temperature of Dew Point	...	41·8	42·1
Mean elastic force of Vapour	... ..	0·271in.	0·273in.
Mean weight of Vapour in a cubic foot of air	... ..	3·1gr.	3·3gr.
Mean additional weight required for saturation	... ..	0·7gr.	0·7gr.
Mean degree of Humidity (saturation 1·00)	...	0·82	0·83
Mean weight of a cubic foot of air	...	538·0gr.	539·2gr.
Total fall of rain in the year	... ..	58·940in.	47·069in.
Number of days per month on which Rain fell	... ..	19·3	18·5

The Maximum monthly mean height of the Barometer
was in February, 1891, and was 29·997in.
The Minimum „ „ „ in Dec., 1868, and was 28·984in.
The Maximum yearly mean height of the Barometer
was in 1896, and was 29·584in.

* Introduced by kind permission

The Minimum yearly mean height of the Barometer was in 1886, and was	... ..	29.389in.
The greatest monthly range of the Barometer was in January, 1884, and was	... ..	2.409in.
The least " " in July, 1852, and was	... ..	0.505in.
The highest reading of the Barometer during 56 years was on January 9th, 1896, and was...	... ..	30.597in.
The lowest " " on Dec. 8th, 1886, and was	... ..	27.350in.
Extreme range	... ..	3.247in.
The highest temperature was on July 20th, 1901, and was	... ..	89.0
The lowest " " January 15th, 1881...	... ..	4.6
The highest adopted mean temperature of a month, July, 1901, and was	... ..	63.2
The lowest " " " February, 1855...	... ..	28.6
The highest adopted mean temperature of a year, 1868	... ..	49.1
The lowest " " " " " 1879	... ..	44.1
The greatest monthly mean weight of vapour in a cubic foot of air, July, 1852	... ..	5.1gr.
The least " " February, 1855 and 1895...	... ..	1.4gr.
The greatest fall of rain in a month was in October, 1870, and was	... ..	13.437in.
The least " " " May, 1859...	... ..	0.249in.
The greatest number of days on which rain fell in one month, Jan., 1872, Oct., 1873, Dec., 1868	... ..	31
The least " " " March, 1852	... ..	3
The greatest fall of rain in one year in 1866	... ..	62.183in.
The least " " " 1887	... ..	31.250in.
The greatest number of days in one year on which rain fell	... ..	319
The least " " " 1855	... ..	148

SUMMARY OF WIND.

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
No. of days in the year on which the prevailing wind was	22	41	47	10	53	44	124	24
Mean velocity in miles per hour	7.1	6.2	9.0	7.4	13.1	13.4	13.4	12.1
Total No. of miles for each direction...	3770	6060	10174	1773	16512	14106	39815	6990

The total No. of miles registered during the year was 99,200.

The max. Velocity of the wind was 60 miles per hour on February 27th, at 2, 6, and 7 a.m., Dir. S., S.W., and W.S.W., respectively.

TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY.

1903.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January	0	2.3	0.3	0	0	0	0.3	4.0	0	0.9	5.3	5.3	0.7	2.5	3.2	4.3	0
February	3.3	6.8	0	0	0	1.8	0	0	2.1	0	0	5.4	0.9	0	0	0	0
March	0	0	8.3	2.2	5.8	5.2	1.3	8.0	0	6.8	0.5	0	1.7	0.6	0.3	2.3	0
April	0	7.1	0	6.4	6.0	0	7.6	9.7	0.3	0.1	3.3	6.0	9.7	6.8	8.2	10.1	10.2
May	2.3	2.2	0	0	2.2	0	0	5.1	0	0	0	11.6	0.8	2.4	6.2	2.2	3.1
June	7.9	5.7	14.2	12.9	3.9	9.3	6.7	12.8	7.4	13.4	3.1	10.5	0.6	0	0.2	7.6	0.3
July	11.2	7.4	12.5	7.2	0	3.9	14.2	1.7	8.8	7.3	0	10.3	9.4	0.3	0.9	0	3.3
August... ..	1.2	6.7	7.7	7.6	9.0	9.4	10.0	0.5	11.6	2.4	3.0	11.8	7.3	2.2	0	5.0	2.2
September	6.3	0	6.2	4.0	7.7	10.6	4.7	0	5.4	2.1	8.8	7.8	7.9	7.7	7.3	9.8	4.0
October	0	1.2	1.8	7.1	4.5	0	1.7	0	0	6.3	0	0	5.8	0	3.6	1.8	4.8
November	1.3	0	6.7	5.7	3.7	3.7	0.5	1.0	5.1	0	0	0	0	3.3	4.0	7.1	5.7
December	4.2	0	0	0.6	0	0	0	0	0	0	1.3	0	0	0.5	0	0	0

TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY.
(Continued.)

1903.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Monthly Total.	Per centage each month
January	0	0	0	0	0	3.5	2.6	0.2	0	0	1.0	0	0	1.3	37.7	15.2
February	2.0	6.8	0	0	0	3.8	0	1.7	5.8	1.7	0.3	0	0	0	42.4	15.6
March	6.9	0	0	0	2.8	0	4.2	0.3	4.8	3.8	0.3	7.8	2.2	7.1	83.2	22.7
April	7.6	9.7	10.8	1.2	5.4	5.4	12.0	9.2	7.5	0	3.0	2.0	1.8	0	167.1	39.9
May	8.1	10.2	2.7	8.3	7.7	12.3	13.4	12.3	13.6	14.2	9.7	7.4	6.8	10.4	175.2	35.5
June	2.8	12.4	11.1	11.2	8.1	9.8	0.4	4.7	0	0.3	8.2	8.7	3.2	0	197.4	38.9
July	0.6	2.2	9.8	1.2	7.6	5.7	10.4	6.2	6.2	0	8.8	5.8	5.0	4.2	172.1	33.8
August... ..	2.0	8.5	0	7.1	10.8	6.3	0	7.2	0	0	3.7	8.7	0	5.5	157.4	34.4
September	9.7	1.8	6.3	8.7	0.8	5.1	0	0	5.0	0	4.1	0	6.8	0	148.6	39.2
October	0.6	0	0	5.3	0	4.2	0	1.9	0.2	0	1.3	5.7	0	2.3	60.1	18.4
November	6.3	0	0	0.3	0	1.2	3.9	1.6	0.7	0	0	0.2	3.2	0	65.2	25.5
December	0	0	0	0	0	0	0	1.1	0.7	0	0	3.0	0	2.4	13.8	6.0

VITAL STATISTICS.

TABLE I.—DEATHS registered during the year 1903 in the **URBAN SANITARY DISTRICTS** of the Administrative County of Lancaster, classified according to Ages and Localities, and showing also the Area and Population of such Localities, and the Birth-Rate and Death-Rate during the year.

NOTES.—(a) The Area and Population of each District are taken from the Census Return.

(b) The Deaths of Residents registered in Public Institutions beyond the limits of the Districts are included in these Tables, and the Deaths of Non-Residents registered in Public Institutions in the Districts are excluded.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1903.	Registered Births.	Birth- rate.	Death- rate.	Death- rate from the seven principal Zymotic Diseases.	Phthisis Death- rate.		Under 1 yr.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 55.	55 and upwards.
ABRAM	1981	6306	6556	270	41.1	22.8	1.72	0.91	207	150	56	22	5	7	43
ACCRINGTON (Borough) ..	3127	43122	44000	966	21.9	11.7	1.81	0.93	130	617	126	81	32	24	263
ADLINGTON	1062	4523	4620	145	31.3	11.0	0.43	Nil.	110	51	16	6	3	1	16
ALLERTON	1589	1101	1101	21	21.7	9.9	Nil.	Nil.	125	11	3	..	..	2	1
ASHTON-IN-MAKERFIELD ..	6251	18687	19611	760	38.7	16.1	3.26	0.30	171	322	130	46	11	16	83
ASHTON-UNDER-LYNE (Borough)	1346	43890	44232	1161	26.2	20.0	2.71	1.46	200	887	233	121	23	31	299
ASPULL	1906	8388	8388	316	37.6	21.2	5.12	0.83	183	178	58	36	7	11	40
ATHERTON	2265	16211	16211	583	35.9	17.8	1.13	0.80	180	290	105	47	11	16	80
AUDENSHAW	1241	7216	7383	180	24.3	13.5	1.76	1.21	127	100	23	9	6	3	35
BACUP (Borough)	6120	22505	22500	552	24.5	19.5	2.41	1.15	139	439	77	70	21	25	161
BARROWFORD	1385	4959	5000	126	25.2	13.0	0.60	2.00	150	65	19	1	3	4	17

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.							
				Registered Births.	Birth rate.	Death rate from the seven principal Zymotic Diseases.	Pneumonia Death- rate.	Respi- ratory Death- rate.		Under 1 year.	1 and 2, under 3.	3 and under 5.	5 and under 6.	65 and upwards.			
		Census, 1901.	Estimate to middle of 1903.														
BILLINGE	4596	4232	4300	148	34.4	17.9	0.69	0.93	3.02	128	77	19	11	4	6	21	16
BIRKDALE	2699	14197	15000	304	20.2	15.5	1.40	0.80	2.73	157	233	48	26	13	9	66	71
*BISHAM-WITH-NORRECK.	1346	985	1400	23	23.0	8.0	1.00	Nil.	1.00	130	8	3	3	..	..	2	..
BLACKPOOL (Borough) ..	3601	47348	53015	1218	22.9	14.8	1.45	0.98	1.98	135	788	165	64	22	31	319	184
BLACKROD	2392	3875	3900	121	31.0	18.1	3.84	0.76	1.79	123	72	15	10	7	4	24	12
BRIERFIELD	807	7288	7500	202	26.9	14.1	1.20	0.13	4.40	158	106	32	16	5	2	36	15
CARNFORTH	1505	3040	3050	101	33.1	16.7	0.32	Nil.	1.31	148	51	15	2	2	2	14	16
CHADDERTON.....	3082	24892	25500	715	28.0	17.3	2.00	1.17	3.29	181	442	130	55	23	18	141	75
CHILDWALL	830	219	220	1	4.5	4.5	Nil.	Nil.	Nil.	Nil.	1	..	..	..	..	1	..
CHORLEY (Borough)	3614	26852	28000	825	29.4	16.7	1.39	1.25	2.82	146	468	121	69	25	33	138	82
CHURCH	529	6463	6600	171	25.9	16.6	1.51	1.06	3.18	134	110	23	14	4	8	42	19
CLAYTON-LE-MOORS	1059	8153	8400	238	28.3	16.4	1.19	0.47	2.61	151	138	36	8	11	5	46	32
CLITHEROE (Borough) ..	2385	11414	11500	271	23.8	15.7	2.00	0.86	2.43	131	181	36	20	16	7	53	49
COLNE (Borough)	5063	23000	23000	595	25.8	13.5	0.86	1.43	2.91	131	311	78	39	19	17	98	60
CROMPTON.....	2865	13427	13500	306	22.6	16.7	1.92	0.59	3.40	173	226	53	31	8	14	77	43

* Removed from the Fylde Rural District and given Urban powers 15th April, 1903. Statistics refer to 37 weeks.

TABLE I.—Continued.

UREAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1905.	Registered Births.	Birth- rate.	Death- rate.	Death- rate from the seven principal Zymotic Diseases.	Phthisis Death- rate.	Respi- ratory Death- rate.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
CROSTON	2347	2102	2125	39	18·3	15·5	1·41	0·91	3·76	2	1	3	4	10	13
DALTON-JN-FURNESS	7990	13020	13020	377	28·9	11·8	1·38	1·53	2·38	51	25	6	10	48	53
DARWEN (Borough)	5959	38212	39114	941	24·0	12·8	0·76	0·56	2·40	117	51	47	19	151	147
DENTON	2591	14931	15246	387	25·3	11·8	1·37	1·01	1·83	70	23	10	12	68	43
DROYLSDEN	1010	11087	11500	305	26·5	11·6	0·95	1·21	3·39	47	20	7	7	57	31
ECCLES (Borough)	2657	31369	35600	1014	28·4	11·8	1·65	0·92	2·61	123	58	26	25	183	112
FAIRSWORTH	1072	14152	14500	414	28·5	16·4	2·20	0·89	2·41	63	35	4	10	85	42
FARNWORTH	1501	25955	26000	756	29·0	18·0	2·19	0·80	2·76	160	54	19	19	160	56
FLEETWOOD	2510	12082	13250	131	32·5	13·0	1·66	0·52	1·81	46	29	9	7	56	26
FULWOOD	2116	2870	2994	52	17·3	13·0	1·33	0·33	2·33	1	1	2	3	17	12
GOLBORNE	1679	6789	7000	242	31·5	19·0	3·42	0·42	4·28	40	23	8	8	31	23
GORTON	1117	26564	28500	976	31·2	18·9	2·59	1·17	3·75	195	81	14	35	137	78
GRANGE-OVER-SANDS	1510	1993	1993	26	13·0	12·0	NIL.	1·00	1·50	3	..	..	1	11	9
GREAT CROSBY	1907	7555	8014	174	21·6	9·8	0·21	0·99	1·61	16	7	3	7	27	19
GREAT HARWOOD	2868	12015	12500	323	25·8	12·6	1·12	0·80	2·32	33	17	4	12	61	31

* Excluding a Population of 2,650 in Public Institutions.

TABLE 1.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages					
		Census, 1901.	Estimate to middle of 1903.	Registered Births.	Birth- rate.	Death- rate.	Death- rate from the seven principal Zymotic Diseases.	Pulvisis Death- rate.		Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and under 90.
HASLINGDEN (Borough)...	8196	18513	18713	431	22.9	15.8	1.06	0.74	3.36	298	20	15	12	116	69
HAYDOCK	2411	8375	9100	398	43.7	14.3	3.07	0.65	2.19	131	24	7	3	35	23
HEATON NORRIS	1619	9392	9856	152	15.4	10.0	0.71	0.40	1.42	99	4	5	1	36	29
HEYSHAM	1835	3381	3381	58	17.4	13.9	0.88	Nil.	2.07	47	2	4	..	26	8
HEYWOOD (Borough)	3660	25458	25915	634	21.4	17.5	1.08	1.81	3.97	456	49	20	26	190	91
HINDLEY	2612	23504	24672	881	35.7	18.8	2.47	0.68	3.32	464	89	21	22	115	63
HORWICH	3257	15081	15614	496	31.7	15.4	1.08	0.96	3.39	241	30	13	12	86	37
HURST	638	7115	7115	178	24.9	17.7	2.65	1.11	2.37	127	28	3	6	40	24
HUYTON-WITH-ROBY	3053	4661	4661	121	25.9	12.4	0.85	0.64	1.71	58	9	3	4	14	18
INCE-IN-MAKERFIELD	2320	21262	21740	903	41.5	21.8	4.87	0.50	5.15	475	113	31	16	110	42
IRLAN	4620	4335	4700	160	34.0	13.4	0.63	0.42	1.91	63	7	3	6	20	11
KEARSLEY	1005	9218	9100	301	32.0	19.1	3.19	1.38	2.76	180	20	9	9	53	31
KIRKHAM	857	3693	3693	118	31.9	17.8	0.54	1.08	3.24	66	5	2	5	28	17
LANCASTER (Borough) ..	3506	40329	42570	1062	24.9	11.0	0.70	0.89	1.62	471	37	24	19	158	117
LATHAM AND BURSROUGH.	13660	7113	7318	229	31.1	11.2	0.81	1.63	1.22	83	4	2	3	29	23
LEES	203	3621	3660	113	30.8	24.0	3.82	1.09	3.82	88	14	4	1	19	22

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr to 1000 births.	Mortality from all causes at subjoined ages.					
				Birth- rate.	Death- rate.	Death- rate from the seven principal zymotic Diseases.	Phthisis Death- rate.	Respi- ratory death- rate.		At all Ages.	1 under 1 year.	5 and under 5.	15 and under 25.	25 and under 65.	65 and upwards.
LEIGH (Borough)	6358	40001	42000	34.0	19.7	4.83	0.95	4.52	191	830	273	199	39	195	87
LEVENSHULME	606	11485	13500	30.0	11.6	0.74	0.41	2.44	98	157	40	11	5	56	37
LEYLAND	3725	6865	7000	25.1	14.2	0.28	1.28	2.11	119	100	21	11	2	31	25
LITHERLAND	857	10592	12735	36.8	12.8	0.47	0.91	2.90	113	164	53	15	7	62	19
LITTLEBOROUGH	7853	11166	11338	22.1	15.0	0.61	0.79	2.73	159	171	40	16	4	58	46
LITTLE CROSDY	1903	563	578	22.4	12.1	Nil.	Nil.	Nil.	76	7	1	..	..	2	3
LITTLE HULTON	1699	7294	7294	27.2	12.8	1.64	0.41	2.87	100	94	20	13	8	27	22
LITTLE LEVER	808	5119	5230	25.2	19.3	3.82	1.14	5.92	234	101	31	17	3	28	18
LITTLE WOOLTON	1389	1091	1091	16.4	7.3	Nil.	Nil.	0.91	111	8	2	1	1	1	2
LONGRIDGE	3285	4304	4304	25.7	13.4	0.23	2.09	1.16	63	58	7	4	5	23	17
LYTHAM	2464	7185	7750	18.0	13.4	1.03	0.90	2.06	142	101	20	14	3	30	33
MIDDLETON (Borough) ..	4775	25178	25178	25.3	17.3	0.91	1.19	3.33	134	438	86	46	18	154	112
MILNROW	5198	8241	8300	22.7	13.8	1.08	1.20	2.77	132	115	25	8	8	41	26
MORFECAMBE (Borough) ..	1801	11798	13000	16.9	13.9	0.23	0.84	2.00	131	181	29	12	5	71	55
MOSSLEY (Borough)	3622	13452	13570	18.7	15.1	0.66	1.03	2.80	105	205	27	16	7	78	65
MOSS SIDE	421	26677	27316	20.5	14.1	1.39	1.17	2.19	124	387	70	37	19	138	105

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1903.		Birth- rate.	Death- rate.	Death- rate from the seven principal Zymotic Diseases.	Phthisis Death- rate.	Respi- ratory Death- rate.		Under 1 year.	1 and 2.	3 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
MUCH WOOLTON	792	4731	4731	113	23·8	12·2	1·90	0·84	2·74	97	58	11	8	3	3	18	15
NELSON (Borough)	3166	32816	35000	772	22·0	12·3	0·80	0·77	2·94	139	433	108	43	22	21	156	83
NEWTON-IN-MAKERFIELD.	3105	16699	17710	617	34·8	16·2	2·59	1·01	3·38	137	288	85	51	14	15	56	64
NORDEN	5358	3907	3921	82	20·8	16·5	0·76	0·76	2·29	195	65	16	5	2	1	22	19
ORMSKIRK	574	6857	6857	197	28·7	17·6	1·02	1·16	3·06	121	121	24	13	6	3	38	37
ORRELL	1617	5436	5436	196	36·0	14·7	2·75	Nil.	3·31	142	80	28	10	4	2	20	16
OSWALDTWISTLE	4885	14192	14600	392	26·8	15·2	0·61	0·75	2·73	132	222	52	18	8	13	89	42
PADHAM	970	12205	12383	345	27·8	15·5	0·65	0·88	2·01	168	192	58	11	4	10	56	53
PEMBERTON	2895	21664	22398	865	38·6	20·2	4·91	1·02	3·48	182	451	158	90	22	20	121	40
POULTON-LE-FYLDE	915	2223	2223	67	30·1	10·3	0·44	1·34	Nil.	59	23	4	5	1	..	5	8
PREESALL-WITH- HACKINSALL	3232	1423	1475	34	23·0	12·8	0·67	0·67	1·35	88	19	3	..	1	..	7	8
PRESCOT	297	7855	7855	308	39·2	24·3	5·60	1·27	5·09	201	191	63	36	8	6	48	30
PRESTWICH	*2191	49779	410285	250	24·3	14·0	1·26	1·06	2·62	92	145	23	11	4	6	56	42
RADCLIFFE	3098	25368	25500	643	25·2	17·3	1·76	0·86	3·45	150	443	97	59	20	21	159	87

* Excluding 673 Acres (with a Population of 63) transferred to Manchester 9th November, 1903.

† Excluding a Population of 2,997 in the County Asylum and 63 in the portion of the District transferred to Manchester.

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1903.	Registered Births.	Birth- rate.	Death- rate.	Death- rate from principal zymotic diseases.	Ethiopia death- rate.	Respi- ratory death- rate.	At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.
RAINFORD	5877	3359	3333	112	33·6	11·4	0·60	1·20	2·40	98	11	2	2	2	10
RAMSBOTTOM	6421	15920	15920	370	23·2	14·8	1·31	2·13	2·76	110	41	15	11	15	99
RAWTENSTALL (Borough).	9535	31053	31250	687	21·9	15·2	1·40	0·95	2·88	126	87	57	12	21	181
RISHTON	2985	7031	7200	168	23·3	13·1	1·52	0·97	1·38	125	21	13	4	7	35
ROYTON	2145	14881	15200	362	23·8	18·0	1·11	1·38	3·81	132	48	34	13	18	99
ST. ANNES-ON-THE-SEA ..	3342	6838	8207	151	18·3	10·4	0·24	0·60	1·21	66	10	3	4	5	32
SKELMERDALE	1942	5699	6200	228	36·7	20·0	2·41	0·96	3·70	236	54	20	5	1	25
SOUTHPORT (Borough) ..	5144	48083	49669	901	18·2	14·3	0·91	0·74	1·89	137	124	51	15	31	212
STANDISH-WITH- LANGTREE	3266	6303	6502	222	34·1	13·9	1·53	Nil.	2·61	114	32	46	2	2	21
STRET福德	3240	30436	32290	807	24·9	13·5	0·96	0·77	2·10	109	88	42	15	22	180
SWINTON AND PENDLEBURY	2212	27065	28000	922	32·9	16·6	1·67	0·82	4·0	156	141	62	21	12	153
THORNTON	2996	3108	3517	118	33·5	14·7	1·13	0·28	1·70	135	16	8	2	1	12
TOTTINGTON	2543	6118	6300	105	16·6	14·1	1·90	0·47	3·33	57	6	9	6	8	31
TRAWDEN	6815	2641	2750	75	27·2	12·3	0·72	0·72	4·36	53	1	..	2	1	17
TUITON	17335	12355	12452	254	20·3	13·0	1·12	0·80	2·48	55	14	10	11	8	56

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr to 1000 births.	Mortality from all causes at subjoined ages.							
		Census, 1901.	Estimate to middle of 1903.	Registered Births.	Birth-rates.			Death- rate. Zymotic Diseases.		Pneumonia Death- rate.	Respi- ratory Death- rate.	1 and under 1 yr.	5 and under 5.	15 and under 15.	25 and under 25.	35 and under 35.	
					Birth- rate.	Death- rate.	Death- rate from the seven principal Zymotic Diseases.										
TYLDESLEY-WITH- SHARPLEY	2490	14843	15750	537	31.0	17.6	2.28	0.57	4.19	169	278	91	50	13	14	72	38
ULVERSTON	3172	10064	10060	283	28.1	16.5	1.49	0.59	3.28	95	166	27	11	11	5	52	57
UPHOLLAND	4686	1773	4773	170	35.6	14.4	2.09	0.62	1.67	64	69	11	14	5	4	26	9
URMSTON	992	6591	7100	168	23.6	11.9	1.26	1.26	2.53	148	85	25	9	4	6	22	19
WALTON-LE-DALE	4658	11271	11271	300	26.6	14.1	1.41	1.06	2.30	113	159	31	19	7	6	59	34
WARDLE.....	3192	4427	4427	64	14.1	10.6	1.12	0.90	0.67	125	47	8	4	3	..	14	8
WATERLOO-WITH- SEAFORTH	952	23102	25175	686	27.2	9.7	0.47	0.43	1.90	100	246	69	22	9	11	78	57
WESTHOUGHTON	5560	11377	14955	500	33.4	14.6	1.93	0.40	2.60	132	249	66	39	9	7	70	28
WHITEFIELD.....	1406	6588	6775	136	20.0	13.5	1.47	1.62	2.50	176	92	24	6	1	4	31	26
WHITWORTH	4485	9578	9688	218	22.5	11.3	0.30	1.23	2.47	142	139	31	7	4	8	59	30
WIDNES (Borough).....	3110	28580	29519	998	33.8	15.1	1.82	0.23	2.71	113	448	143	76	27	21	111	40
WIDNINGTON.....	5818	33770	*30000	728	20.2	11.3	0.86	1.05	1.27	105	410	77	25	8	12	171	117
WIDNELL.....	3705	3349	3500	86	21.5	10.0	0.28	0.28	2.85	58	35	5	1	2	1	14	12
WORSLEY	5412	12462	12747	320	25.1	14.4	1.88	0.70	2.19	137	184	44	18	13	3	68	38

* Excluding a Population of 2,505 in the Manchester Workhouse.

TABLE II.—DEATHS registered during the year 1903, in the **URBAN SANITARY DISTRICTS** of the Administrative County of Lancaster, classified according to Diseases and Localities, and distinguishing Deaths of Children under five years of age.

URBAN SANITARY DISTRICTS.		Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																								
		Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas	Phthisis (Pul. Tuberculosis).	Other Tubercu- lar Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.	
Age at Death.								Typhus	Typhoid	Other continued																
Under 5. 5 upwards	ABRAM .....	..	10	4	2	1	..	..	2	..	..	..	8	..	..	..	6	2	..	17	..	5	7	2	..	24
Under 5. 5 upwards	ACCINGTON (Borough) ..	..	34	11	1	3	3	..	1	..	..	11	12	..	..	..	1	16	..	25	10	51	11	10	..	27
Under 5. 5 upwards	ADLINGTON .....	..	..	..	..	..	..	..	..	..	..	1	3	..	1	..	..	4	..	7	..	1	..	..	..	6
Under 5. 5 upwards	ALLERTON .....	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	8	..	..	..	11
Under 5. 5 upwards	ASHTON-IN-MAKERFIELD ..	..	4	5	10	4	..	..	6	..	..	29	10	..	..	..	1	13	..	29	..	11	8	3	..	2
Under 5. 5 upwards	ASHTON-UNDER-LYNE (Borough)	1	47	2	28	4	4	..	4	..	..	29	7	..	..	1	2	6	..	55	5	73	7	4	..	69
Under 5. 5 upwards	ASPULL .....	..	20	3	6	2	..	..	2	1	..	9	4	..	..	..	1	7	..	15	..	11	4	..	..	68
Under 5. 5 upwards	ATHERTON .....	..	5	3	21	2	2	..	16	..	..	16	6	..	..	..	13	5	3	28	3	22	5	2	..	169
Under 5. 5 upwards	AUDENSHAW .....	..	4	..	1	1	..	..	2	..	..	2	1	..	..	..	9	1	..	4	..	2	1	..	..	244
		..	3	..	..	..	..	..	..	..	..	..	1	..	1	..	..	2	..	12	..	7	..	..	..	25

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																								
		Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tubercu- lar Diseases.	Cancer, malig- nant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.	
BACUP (Borough)	Under 5...	..	29	5	2	2	1	2	2	1	2	1	3	..	31	..	1	1	1	..	67
	5 upwards	..	1	2	..	4	..	..	..	..	1	1	2	..	..	1	25	6	12	61	1	31	5	4	130
BARROWFORD	Under 5...	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	10	..	1	5	..	..	..	..	11
	5 upwards	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	2	..	9	..	1	1	1	21
BILLINGE	Under 5...	..	1	1	..	..	..	..	..	..	1	3	1	..	..	..	4	1	3	5	..	6	2	1	17
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	2	..	8	..	..	2	1	20
BIRKDALE	Under 5...	..	4	1	8	1	1	..	..	..	1	2	..	..	..	..	12	3	13	13	..	2	..	..	34
	5 upwards	..	..	2	..	1	..	..	..	..	..	3	..	..	..	..	..	4	..	28	5	21	2	3	66
*BISPHAM-WITH-NORRECK.	Under 5...	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	4
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
BLACKPOOL (Borough) ..	Under 5...	3	5	5	19	5	..	..	..	..	22	2	..	..	..	..	52	7	53	37	..	2	7	..	114
	5 upwards	..	..	4	1	2	1	..	..	..	3	3	10	3	..	1	..	7	53	68	11	89	8	8	224
BLACKROD	Under 5...	..	3	1	5	..	..	..	..	..	1	1	..	..	1	..	..	2	..	1	..	..	1	..	10
	5 upwards	..	..	2	..	..	..	..	..	..	..	1	1	..	1	..	3	2	2	6	1	4	1	..	21
BRIERFIELD	Under 5...	..	..	1	..	2	..	..	..	..	2	3	..	..	..	..	1	3	4	17	..	..	2	..	18
	5 upwards	..	..	2	..	1	..	..	..	..	..	..	1	1	..	..	..	..	4	16	1	11	1	..	19
CARNSFORTH	Under 5...	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	14
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	..	1	2	..	25

* Removed from Fylde Rural District and given Urban powers 15th April, 1903. Statistics refer to 37 weeks.

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																							
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Dysentery.	Phthisis (Pul. Tuberculosis).	Other Tubercu- lar Diseases.	Cancer, malign- ant Disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.
CHADDERTON.....	Under 5... 5 upwards	.. 3	16 2	20 4	.. 2	1	3 ..	2 2	2 4	2	1 26	4 8	.. 12	40 41	2 ..	2 41	1 9	.. 3	87 96
CHILDWALL	Under 5... 5 upwards 1
CHORLEY (Borough)	Under 5... 5 upwards	.. ..	7 2	2 4	14 1	2 ..	.. ..	.. ..	3 ..	.. ..	.. ..	6 ..	32 7	.. 3	.. ..	.. ..	1 34	11 4	.. 7	.. 40 39	.. 1	.. 51	1 2	.. 3	71 113
CHURCH	Under 5... 5 upwards	.. 1	2 ..	.. ..	.. 1	.. ..	.. ..	.. ..	1 ..	.. ..	.. ..	3 ..	.. ..	2 ..	.. ..	.. ..	.. 7	2 4	.. 1	.. 10	11 10	.. 1 7	.. 3	.. 3	15 32
CLAYTON-LE-MOORS	Under 5... 5 upwards	.. ..	1 ..	3 ..	.. 2	.. ..	.. ..	.. ..	1 ..	.. ..	.. ..	2 ..	3 ..	.. ..	.. ..	.. ..	.. 4	1 1	.. 8	.. 5 17	.. 1	.. 14	1 ..	.. ..	28 44
CLITHEROE (Borough) ..	Under 5... 5 upwards	.. ..	.. 2	.. 12	4 1	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	2 1	4 1	2 2	1 ..	.. ..	.. 10	.. 2	.. 11 19	.. 9	.. 1	1 11	2 3	.. 2	21 34
COLNE (Borough)	Under 5... 5 upwards	.. ..	1 ..	5 3	1 2	.. ..	.. ..	.. ..	1 ..	.. ..	.. ..	5 2	3 1	2 2	.. ..	.. ..	1 32	1 3	.. 9	.. 30 37	.. 3	.. 26	.. ..	.. ..	66 73
CROMPTON	Under 5... 5 upwards	.. 5	6 1	.. ..	.. ..	.. ..	.. ..	.. ..	2 ..	.. ..	.. ..	.. ..	2 1	2 4	.. ..	.. ..	.. 8	6 4	.. 10	.. 25	.. 1	.. 17	2 2	.. 1	35 56
CROSTON	Under 5... 5 upwards	.. ..	2 ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1	.. ..	.. 4	2 6	.. 2	.. 1	.. ..	.. 1	.. 8
DALTON-IN-FURNESS	Under 5... 5 upwards	.. ..	4 ..	.. ..	2 1	1 ..	.. ..	.. ..	.. ..	.. ..	.. ..	10 ..	1 ..	2 ..	.. ..	.. ..	19 ..	10 1	.. 6	.. 11 17	.. 2	.. 13	.. 1	.. 2	33 51

Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.

URBAN SANITARY DISTRICTS.		Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. (Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Pneumonia, Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tuberc. Diseases.	Cancer, malig- nant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.	
DARWEN (Borough).	Under 5, 5 upwards	12	1	..	8	4	..	..	1	..	..	1	20	..	..	1	..	22	6	5	23	41	..	1	3	..	71
		1	..	..	..	..	..	..	..	..	..	..	6	1	..	..	..	22	5	23	53	6	57	4	4	145	
		5	1	1	4	1	2	..	..	2	..	..	5	2	..	..	..	1	16	3	12	16	7	19	..	2	55
DENTON	Under 5, 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	54
		1	..	2	1	1	..	..	..	..	..	..	4	1	..	..	..	11	2	3	..	..	16	3	2	29	
		..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	11	2	3	..	..	..	16	2	3	29
DROYLSDEN	Under 5, 5 upwards	13	2	2	2	11	..	..	..	..	..	10	11	..	..	..	..	1	13	8	20	32	..	1	..	..	85
		2	1	..	12	..	..	..	..	..	..	..	1	2	..	..	..	32	8	20	62	11	29	8	6	142	
		17	1	3	2	..	..	..	..	..	..	..	3	5	3	..	..	..	1	8	12	15	..	..	7	2	39
FAIRSWORTH	Under 5, 5 upwards	..	1	..	..	..	..	..	3	..	..	..	2	2	1	..	..	12	6	12	20	5	..	26	1	2	40
		2	1	9	2	1	..	..	..	..	..	..	21	1	1	..	1	21	..	15	34	..	29	6	1	116	
		2	2	..	..	..	..	..	..	10	..	..	..	1	1	..	..	1	..	..	..	38	3	29	..	..	122
FARNWORTH	Under 5, 5 upwards	9	1	3	..	1	2	..	..	..	..	6	2	2	..	..	..	7	3	1	11	14	..	9	3	..	32
		1	1	..	1	1	..	..	..	..	..	..	2	1	1	..	..	1	11	11	10	1	9	15	..	37	
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	1	1	2
FLEETWOOD	Under 5, 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
		1	1	1	..	..	..	..	..	1	..	..	..	..	1	..	..	..	1	1	5	6	..	5	1	1	12
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
FULWOOD	Under 5, 5 upwards	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20
		..	1	18	..	..	..	..	..	..	..	..	5	6	..	..	..	..	3	..	2	12	3	7	..	..	28
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28
GOLBORNE	Under 5, 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20
GORTON	Under 5, 5 upwards	6	..	2	6	4	3	..	8	..	..	..	17	1	..	..	..	1	15	..	13	63	..	47	4	..	111
		2	..	..	..	1	..	..	..	..	..	..	3	..	2	..	..	..	41	4	..	44	..	5	1	79	
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	79

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.		Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																										
		Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Typhus	Fever.			Diarrhoea.	Enteritis.	Epidemic Influenza.	Fever.	Erysipelas.	Phthisis (Tub. Tuberculosis).	Other Tubercu- lar Diseases.	Cancer, malign- ant disease.	Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.		
	Under 5... 5 upwards	2	1	4	2	1	..	2	2	10
GRANGE-OVER-SANDS	Under 5... 5 upwards	1	1	..	1	1	1	8	3	1	3	..	10	2	3	11
GREAT CROSBY.....	Under 5... 5 upwards	2	1	8	21	1	10	1	2	20
GREAT HARWOOD.....	Under 5... 5 upwards	..	7	1	..	1	2	2	2	2	10	1	8	8	..	10	1	2	..	1	26
HASLINGDEN (Borough)...	Under 5... 5 upwards	2	..	..	1	3	2	..	1	..	..	7	3	2	..	..	1	13	3	21	15	..	2	3	..	2	46
HAYDOCK	Under 5... 5 upwards	..	1	2	3	1	..	..	4	..	..	16	2	2	..	..	..	6	3	3	13	..	12	7	..	..	22
HEATON NORRIS	Under 5... 5 upwards	..	..	..	1	1	1	..	..	..	..	3	1	2	..	..	..	4	2	12	6	2	6	2	2	..	16
HEYSHAM	Under 5... 5 upwards	3	..	..	..	..	..	..	..	..	..	..	..	..	8	1	..	..	1	2	1	6	1	1	..	..	7
HEYWOOD (Borough)	Under 5... 5 upwards	2	1	1	4	6	2	..	1	..	..	8	1	2	2	..	1	11	6	21	38	10	35	1	2	..	50
HINDLEY	Under 5... 5 upwards	..	26	5	3	2	..	..	3	..	..	19	11	2	..	3	1	35	7	13	11	6	2	3	..	3	89
HORWICH	Under 5... 5 upwards	..	3	3	3	1	2	..	1	..	..	..	2	2	..	..	1	15	3	8	20	2	15	2	3	..	15
		..	..	3	..	..	..	..	..	..	..	..	1	1	2	..	..	12	3	8	33	2	15	3	1	..	57

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.		Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																										
		Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tubercu- lar Diseases.	Cancer, malig- nant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.		
HURST	Under 5..	..	12	2	2	3	8	1	2	7	..	16	..	1	..	27
	5 upwards	3	3	2	10	1	..	32
HUYTON-WITH-ROBY	Under 5..	..	1	1	1	1	1	1	3	3	5	5	..	10	..	2	..	4
	5 upwards	3	15
INCE-IN-MAKERFIELD	Under 5..	..	35	4	8	4	2	..	1	38	35	..	1	2	1	12	5	11	63	..	2	21	..	1	..	67
	5 upwards	..	1	4	..	7	..	..	4	..	..	..	4	1	2	..	10	10	5	11	49	..	..	..	1	..	73
IRLAM	Under 5..	..	..	..	..	1	..	..	..	..	..	2	1	..	1	..	..	4	..	1	4	..	..	8	..	..	11
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	5	..	..	..	6	..	17
KEARSLEY	Under 5..	..	2	2	..	4	..	..	..	..	..	15	4	..	..	4	1	13	..	6	10	..	..	9	..	2	27
	5 upwards	..	..	1	..	2	..	..	4	..	..	..	1	..	..	..	..	..	..	..	16	..	..	..	2	..	41
KIRKHAM	Under 5..	..	..	..	..	1	1	..	..	..	..	1	..	..	..	..	..	4	2	4	3	..	2	9	..	..	6
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	9	..	..	..	..	23
LANCASTER (Borough) ..	Under 5..	1	1	3	6	2	1	..	9	..	..	7	8	..	..	1	..	38	10	25	19	..	7	46	3	..	98
	5 upwards	..	..	..	..	..	..	..	..	..	..	1	1	3	1	..	..	..	5	25	50	..	..	..	3	..	123
LATHAM AND BURSLEIGH ..	Under 5..	..	1	1	..	..	..	..	..	..	..	3	..	..	..	..	..	1	3	6	4	..	1	8	1	..	12
	5 upwards	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	11	1	6	5	..	..	..	..	..	24
LEES	Under 5..	..	1	11	11	..	1	..	..	..	..	..	2	..	..	..	..	4	2	3	5	..	2	5	1	..	18
	5 upwards	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	9	..	..	..	1	18
LEIGH (Borough)	Under 5..	..	101	11	32	4	1	..	2	..	..	30	12	..	..	..	..	..	15	..	21	119	..	2	4	..	139
	5 upwards	..	6	6	1	..	..	..	10	..	..	..	..	..	..	3	..	40	7	..	..	71	6	39	29	5	110

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.		Age at Death.		Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
				Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Group.	Group.	Fever.		Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tubercu- lar Diseases.	Cancer, malignant disease.	Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.
LEVENSHULME	Under 5... 5 upwards	..	1	1	1	1	2	..	1	1	5	..	11	2	..	2	3	1	24
		..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	6	..	8	22	2	13	3	1	42
		1	..	..	..	..	3	..	..	..	..	9	..	5	6	1	9	..	1	21	
		8	..	..	..	..	12	3	..	18	..	1	..	..	33	
		2	4	9	2	6	19	..	20	1	..	31
LEYLAND	Under 5... 5 upwards	2	3	..	..	..	..	..	1	..	..	..	..	9	6	11	11	1	19	5	2	32	
		1	..	..	..	..	..	..	..	..	..	..	..	..	..	20	..	1	..	..	40	
		1	4
		..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15
		1	8	..	2	1	2	3	17	2	3	28
LITTLE LEVER	Under 5... 5 upwards	..	7	2	3	..	..	..	..	..	..	7	..	..	..	..	6	1	2	16	..	9	1	1	12
		..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15	..	..	..	..	18
		1	..	..	..	..	..	..	2	
		1	..	..	3	
		1	1	9	..	3	2	1	3	7
LITTLE WOOLTON	Under 5... 5 upwards	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	7	..	..	7	..	..	1	..	19
		..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	7	2	8	9	..	12	2	..	27

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.														Suicides.	Accidents.	Heart Disease.	Alcoholism, (Intoxication, & Liver).	Pneumonia, & Pleurisy.	Bronchitis, & Cancer, miliary disease.	All other Diseases.
		Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Group.	Group.	Fever.			Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Dyslipelas.	Phthisis (Pul. Tuberculosis).	Other Tuberc. Diseases.	Cancer, miliary disease.	Alcoholism, (Intoxication, & Liver).	Pneumonia, & Pleurisy.	Bronchitis, & Cancer, miliary disease.	All other Diseases.
MIDDLETON (Borough) ..	Under 5.. 5 upwards	1 3	1 ..	1 1	1 ..	5 1	3 ..	.. 1	.. ..	.. ..	5 ..	3 2	2 3	.. ..	2 ..	2 28	9 5	.. 22	.. 26	.. 58	2 ..	43 120
MILNROW	Under 5.. 5 upwards	.. ..	.. ..	.. ..	1 ..	3 3	.. ..	.. ..	.. ..	.. ..	.. ..	1 ..	.. ..	.. ..	3 ..	.. 10	6 1	.. 6	.. 8	.. 15	.. 2	9 35
MORECAMBE (Borough) ..	Under 5.. 5 upwards	.. ..	.. ..	1 ..	.. ..	.. ..	.. ..	.. ..	.. 1	.. ..	1 ..	5 ..	.. ..	.. ..	.. 1	1 10	1 2	.. 12	.. 8	.. 18	.. 25	22 65
MOSSLEY (Borough)	Under 5.. 5 upwards	.. ..	.. ..	.. ..	6 ..	.. 2	1 1	.. 2	.. ..	.. ..	.. ..	5 2	1 ..	.. ..	.. 1	.. 14	2 1	.. 10	.. 25	13 25	.. 21	14 75
MOSS SIDE	Under 5.. 5 upwards	.. ..	1 ..	4 2	10 ..	3 7	.. ..	.. 4	.. ..	.. ..	6 1	5 1	.. 5	.. ..	.. 2	3 29	10 6	.. 24	.. 46	11 46	2 12	19 99
MUCH WOOLTON	Under 5.. 5 upwards	.. ..	4 ..	.. ..	1 ..	.. ..	.. ..	.. ..	.. ..	.. ..	3 1	1 2	.. ..	.. ..	.. ..	.. 4	2 ..	.. 2	.. 3	.. 10	1 6	4 12
NELSON (Borough)	Under 5.. 5 upwards	.. ..	3 ..	6 4	5 ..	3 1	.. ..	.. 3	.. ..	.. ..	2 1	1 1	.. ..	.. ..	.. 1	.. 27	8 1	.. 23	.. 39	.. 64	.. 33	77 112
NEWTON-IN-MAKERFIELD ..	Under 5.. 5 upwards	.. ..	19 ..	4 1	6 ..	5 1	.. ..	.. 1	.. ..	.. ..	7 2	4 ..	.. ..	.. ..	.. ..	.. 18	6 ..	.. 10	.. 30	.. 30	.. 11	52 65
NORDEN	Under 5.. 5 upwards	.. ..	.. ..	.. ..	.. ..	1 1	1 1	.. ..	.. ..	.. ..	.. ..	.. 1	.. ..	.. ..	.. ..	.. 3	2 ..	.. 3	.. 1	.. 8	.. 2	14 15
ORMSKIRK	Under 5.. 5 upwards	.. ..	2 ..	1 1	.. ..	1 ..	.. ..	.. 1	.. ..	.. ..	1 ..	.. ..	.. 1	.. ..	.. 1	.. 8	.. 1	.. 1	.. 9	.. 12	.. 23	23 31

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.		Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																								
		Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tubercu- lar Diseases.	Cancer, malig- nant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Chnrosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.	
RAMSBOTTOM.....	Under 5...	1	4	3	1	6	1	34	1	1	12	..	1	..	3	1	27
	5 upwards	..	..	..	..	2	1	..	..	..	1	1	..	..	..	..	..	1	11	32	25	5	..	59	
RAWTENSTALL (Borough).	Under 5...	1	17	1	11	2	1	3	10	2	..	29	10	7	37	6	..	2	..	1	49
	5 upwards	..	1	..	..	2	..	..	..	..	1	..	6	..	..	..	29	7	19	53	..	57	9	1	133
RISHTON.....	Under 5...	..	7	..	..	1	..	..	1	..	1	..	..	..	..	..	7	3	7	5	..	6	..	3	16
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..	3	28
ROYTON	Under 5...	1	1	3	3	4	1	2	2	1	2	1	..	20	3	1	20	2	2	..	4	..	39
	5 upwards	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	20	1	12	38	..	31	..	..	78
ST. ANNES-ON-THE-SEA ..	Under 5...	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	5	..	8	4	..	..	1	..	6
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	2	17	..	1	34
SKELMERSDALE	Under 5...	..	..	..	6	2	..	..	..	..	4	4	1	..	1	..	6	8	1	11	..	3	..	..	36
	5 upwards	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	12	..	12	..	..	13
SOUTHPORT (Borough) ..	Under 5...	1	12	5	12	1	1	1	5	1	1	6	1	..	2	13	6	26	12	5	2	..	4	94
	5 upwards	..	..	2	1	1	1	1	..	..	..	1	1	..	..	..	35	6	52	68	..	69	11	..	257
STANDISH-WITH- LANGTREE.....	Under 5...	..	3	4	1	..	..	..	..	..	1	4	..	..	..	..	..	2	..	7	..	1	2	..	23
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	..	5	2	..	24
STRETFORD	Under 5...	1	6	3	6	3	1	..	..	..	3	3	..	..	1	..	1	7	5	34	..	1	4	..	58
	5 upwards	..	..	1	..	3	..	..	..	..	..	2	..	..	..	..	24	5	29	54	8	32	11	6	126
SWINTON AND PENDLEBURY.....	Under 5...	..	6	6	1	6	..	..	..	..	14	4	1	1	..	..	23	38	16	49	..	1	4	..	76
	5 upwards	..	..	2	..	5	..	..	..	..	1	1	1	1	..	..	..	6	..	63	..	27	13	2	93

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.		Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																							
		Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Group.	Croup.	Fever.			Cholera.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tubercular Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, (Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.	
Age at Death.		Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Group.	Croup.	Typhus	Typhoid	Other continued	Cholera.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tubercular Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, (Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.	
Under 5.	5 upwards	..	1	3	1	1	2	3	4	..	1	2	..	9
Under 5.	5 upwards	2	1	5	7	..	12	1	..	15
TOTTINGTON	..	1	1	4	..	1	..	..	1	..	..	..	3	..	..	3	1	5	14	1	1	2	..	26
TRAWDEN	1	1	2	1	..	1	11	..	5	2
TURTON	1	..	3	1	..	1	1	1	10	1	6	6	25	1	16	5	1	12
TYLDESLEY-WITH-SHAKERLEY	1	11	7	1	5	2	2	9	4	9	41	25	1	12	14	3	68
ULVERSTON	4	..	2	5	1	..	6	..	15	9	24	5	10	3	2	18
..	5 upwards	..	2	1	..	4	..	..	1	..	..	1	5	..	..	6	..	15	24	5	1	3	..	52
..	5 upwards	..	..	..	..	1	..	..	..	..	..	1	..	2	..	3	..	4	3	5	5	6	1	13
..	5 upwards	..	2	1	..	1	..	..	..	..	..	4	1	..	..	3	..	4	3	5	5	6	1	13
..	5 upwards	..	1	1	..	2	..	..	..	..	..	2	2	..	..	9	..	2	11	7	6	1	1	14
..	5 upwards	..	..	..	..	..	..	..	..	..	..	1	2	..	..	9	..	..	8	18	1	3	..	19
..	5 upwards	..	3	1	..	4	1	1	..	..	3	..	..	1	..	12	2	5	18	2	24	3	..	25
..	5 upwards	1	..	..	..	1	..	..	..	..	..	..	..	1	..	..	6	5	18	2	24	3	..	35
..	5 upwards	..	..	1	2	1	..	..	..	..	..	1	..	..	..	4	1	6	3	..	1	1	1	11

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																								
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phtisits (Pul. Tuberculosis).	Other Tuberc. Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Gripplios of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.		
WATERLOO-WITH- SEAFORTH	Under 5. 5 upwards	1	2	1	5	11	1	10	3	..	26	1	1	..	40
		..	..	..	..	2	..	..	..	..	..	..	2	1	..	..	..	5	5	3	22	..	13	6	..	88
WESTHOUGHTON	Under 5. 5 upwards	..	3	5	2	2	2	..	..	..	8	12	1	..	..	..	1	5	2	1	21	..	14	1	..	37
		..	3	2	..	..	1	..	..	..	..	..	..	2	..	..	..	5	8	8	18	..	14	7	..	48
WHITEFIELD	Under 5. 5 upwards	..	..	..	1	1	..	..	..	..	5	..	..	..	..	..	1	..	2	..	6	..	1	..	..	15
		1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	10	2	2	..	11	..	13	1	..	20
WHITWORTH	Under 5. 5 upwards	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	12	1	13	6	..	..	6	2	..	26
		..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	12	3	3	..	18	1	6	2	2	44
WIDNES (Borough).....	Under 5. 5 upwards	..	2	4	12	9	..	..	..	..	8	51	..	..	1	1	..	7	8	..	32	..	5	2	..	83
		1	..	3	..	2	..	..	..	..	1	10	..	..	..	..	..	7	17	7	49	1	22	11	1	86
WIDNINGTON.....	Under 5. 5 upwards	..	6	3	12	1	1	..	..	..	7	3	..	5	..	1	1	38	4	35	9	..	86	5	..	49
		..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	38	10	35	37	10	86	5	..	130
WIDNELL	Under 5. 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	1	..	..	..	3	..	..	..	..	3
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	7	..	11	1	..	5
WORSLEY	Under 5. 5 upwards	..	2	1	4	4	..	..	..	..	4	..	..	..	..	..	1	8	2	11	9	..	12	4	1	35
		..	..	..	6	..	..	..	..	..	..	1	..	..	..	..	..	8	2	11	19	3	12	4	1	53

TABLE III.—DEATHS registered during the year 1903, in the **RURAL SANITARY DISTRICTS** of the Administrative County of Lancaster, classified according to Ages and Localities, and showing also the Area and Population of such Localities, and the Birth-rate and Death-rate therein during the year.

NOTE.—(a) The Area and Population of each District are taken from the Census Return.

(b) The Deaths of Residents registered in Public Institutions beyond the limits of the Districts are included in these Tables, and the Deaths of Non-Residents registered in Public Institutions in the Districts are excluded.

RURAL SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.						Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at unjoined ages						
		Census, 1901.	Estimate to middle of 1903.	Registered Births.	Birth- rate.	Death- rate.	Death- rate from the seven principal Zymotic Diseases.	Pneumonia death- rate.	Respi- ratory death- rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and upwards.
BARTON-UPON-IRWELL ..	6872	8065	8484	216	25.4	12.7	1.76	0.70	1.88	108	28	11	13	2	35	19	
BLACKBURN	20150	8238	8238	205	24.8	14.2	0.81	0.72	3.39	107	22	10	7	7	44	27	
BURNLEY	41097	16589	17000	366	21.5	12.2	0.88	0.61	1.91	122	45	15	10	8	73	57	
BURY	12014	8088	8200	178	21.7	15.1	0.97	0.97	2.07	129	23	10	5	7	49	30	
CHORLEY	39985	19310	20000	526	26.3	14.3	1.55	0.90	2.0	131	69	35	14	15	82	71	
CLITHEROE (Lancashire portion).....	33459	6726	6726	120	17.8	13.0	0.89	0.29	2.23	141	17	5	3	2	28	33	
FYLDE	*38768	*10235	*10479	287	26.7	14.7	1.48	0.83	1.86	125	36	15	6	3	55	44	
GARSTANG	57380	10437	10437	268	25.6	13.7	0.57	0.67	1.34	59	16	14	5	6	51	52	
LANCASTER	54503	8837	8865	226	25.4	14.2	0.33	0.78	0.78	110	25	1	1	4	35	57	
LEIGH.....	11574	8410	8569	293	34.1	16.6	2.56	0.46	2.91	136	10	22	7	4	36	34	

* By the formation of Bispham-with-Norbreck into an Urban District (15th April, 1903), the Fylde area was diminished by 1,346 acres and the population by 985. Statistics for Bispham included to date mentioned.

TABLE III. -Continued.

RURAL SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.				Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.		Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1903.	Registered Births.	Birth- rate.	Death- rate.	Death- rate from the seven principal zymotic diseases.	Phtisis death- rate.	Respi- ratory death- rate.	At all Ages	Under 1 year.	Under 5, and 15.	Under 15, and 20.	25 and under 35.	55 and under 65.	65 and upwards
LIMEHURST	4772	10338	10338	277	26.7	15.4	1.25	0.77	2.51	160	48	17	8	4	54	29
LUNESDALE	78267	6948	6948	145	20.8	13.9	0.71	0.57	1.29	97	12	6	..	3	31	45
PRESTON	52929	15997	15397	110	25.6	14.2	0.87	0.62	2.56	228	50	18	5	10	75	70
SEFTON	16949	9384	11260	325	28.8	13.7	1.59	1.15	1.95	155	45	13	8	10	46	33
ULVERSTON	127871	17716	17716	406	22.9	13.1	0.81	1.21	1.12	233	30	14	10	8	72	99
WARRINGTON	19360	10196	11387	307	26.9	13.1	1.05	0.79	2.45	150	34	16	9	6	17	38
WEST LANCASHIRE	69051	26545	27488	612	22.2	12.6	0.83	0.80	1.38	349	60	32	14	12	135	96
WHISTON	31281	18961	19860	507	25.5	12.0	1.20	0.60	2.16	210	44	31	9	11	85	60
WIGAN	11695	6045	6413	179	27.9	14.9	0.93	0.31	2.96	96	26	12	4	3	35	16

† Excluding a population of 2,432 in Public Institutions.

TABLE IV.—DEATHS registered during the year 1903, in the **RURAL SANITARY DISTRICTS** of the Administrative County of Lancaster, classified according to Diseases and Localities, and distinguishing Deaths of Children under five years of age.

RURAL SANITARY DISTRICTS.		Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																									
		Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other tuber- cular diseases.	(Cancer, malign- ant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, (Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.	
									Typhus	Typhoid	Other continued																
BARTON-UPON-IRWELL ..	Under 5..	..	1	..	2	..	5	..	..	..	..	..	2	..	..	..	..	..	6	3	..	5	..	8	1	..	22
	5 upwards	..	..	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	6	2	6	11	2	8	1	1	23
BLACKBURN	Under 5..	1	1	3	..	..	..	..	1	..	..	..	3	..	..	..	..	..	5	1	..	9	1	14	3	..	13
	5 upwards	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	2	6	19	1	14	3	..	29
BURNLEY	Under 5..	1	..	..	..	3	2	..	1	..	..	2	5	..	..	..	..	..	11	2	..	14	3	24	8	1	31
	5 upwards	..	..	..	..	..	4	..	..	..	..	2	..	4	..	..	..	..	11	3	15	19	3	24	8	1	52
BURY	Under 5..	..	2	..	2	..	1	..	..	..	..	3	..	2	..	..	..	..	8	6	..	4	..	17	1	..	13
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	3	4	13	..	17	8	3	33
CHORLEY	Under 5..	..	1	4	1	12	..	..	..	..	..	6	13	..	..	1	..	1	18	11	..	17	..	24	1	..	41
	5 upwards	..	..	..	1	..	..	..	5	..	..	1	3	4	1	..	..	..	18	2	16	23	2	24	9	2	67
CLITHEROE (Lancashire portion)	Under 5..	..	2	1	1	..	1	..	1	..	..	..	..	..	..	..	..	..	2	2	..	1	..	10	1	..	10
	5 upwards	..	..	1	..	..	..	..	1	..	..	..	..	1	..	..	1	..	2	..	2	11	2	10	1	1	33

TABLE IV.—Continued.

RURAL SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																	Suicides.	All other Diseases.						
		Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Group.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas	Phtisis (Pul. Tuberculosis).	Other Tubercu- lar Diseases.			(Cancer, malign- ant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	
								Typhus	Typhoid	Other continued																
FYLDE	Under 5... 5 upwards	.. 2	.. ..	3 1 ..	1 2 3	1 ..	1 ..	.. 1	.. ..	.. ..	4 1 ..	1 1 1	.. 2	.. ..	.. ..	.. ..	.. ..	1 8	10 10	.. 2	.. 13	.. 2	.. 2	.. 2	.. 2	.. 3
GARSTANG	Under 5... 5 upwards	.. ..	.. ..	.. ..	2 1 ..	.. ..	.. ..	.. 3	.. ..	.. ..	.. ..	1 3 ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. 7	1 4	.. 7	.. 1	.. 11	2 6	.. 6	.. 6	.. 17
LANCASTER	Under 5... 5 upwards	.. ..	.. ..	.. ..	1 ..	.. ..	.. ..	.. 2	.. ..	.. ..	.. ..	1 1 4	.. ..	.. ..	.. ..	.. ..	.. 7	3 1	.. 4	.. ..	1 18	.. 2	.. 5	.. 1	.. 1	.. 19
LEIGH	Under 5... 5 upwards	.. ..	4 2 ..	2 1 ..	1 1 ..	.. ..	.. ..	.. 6	.. ..	.. ..	3 2 1	.. 1 1	.. ..	.. ..	.. ..	.. ..	.. 1	.. ..	.. 7	.. ..	.. 17	.. ..	.. 1	.. 1	.. 1	.. 31
LIMEHURST	Under 5... 5 upwards	.. ..	1 ..	.. 6 ..	1 3 ..	1 3 ..	.. ..	.. 1	.. ..	.. ..	1 ..	.. ..	.. ..	.. ..	.. ..	.. ..	2 6	.. ..	.. ..	.. ..	15 11	.. ..	.. 7	.. 4	.. 39	.. 52
LUNSDALE	Under 5... 5 upwards	1 ..	.. ..	.. 2 ..	2 ..	.. ..	.. ..	.. ..	.. ..	.. ..	1 1 ..	.. 1 ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. 7	2 7	.. 2	.. 1	12 4	.. 4	.. ..	.. ..	.. 13
PRESTON	Under 5... 5 upwards	.. ..	1 ..	1 1 ..	3 1 ..	1 1 ..	.. ..	.. 3	.. ..	.. ..	3 1 ..	.. 5 ..	.. ..	.. ..	.. ..	.. ..	1 9	5 4	.. 7	19 22	.. 1	.. 22	1 8	.. 2	.. 20	.. 75
SEFTON	Under 5... 5 upwards	2 1	3 1 ..	2 1 1	1 1 ..	1 1 ..	.. ..	.. ..	.. ..	.. ..	6 1 1	5 2 ..	.. ..	.. ..	.. ..	.. ..	.. 13	1 2	.. 11	6 16	.. 2	1 12	.. 9	.. ..	.. 30	.. 27
ULVERSTON	Under 5... 5 upwards	.. ..	1 1 ..	1 1 2	3 2 ..	.. ..	.. ..	.. 1	.. ..	.. ..	6 ..	3 1 ..	.. ..	.. ..	.. ..	.. ..	1 21	2 3	.. 17	5 15	.. 2	.. 19	1 6	.. 4	.. 21	.. 96
WARRINGTON	Under 5... 5 upwards	.. ..	1 1 ..	1 2 ..	2 ..	2 ..	.. ..	.. 1	.. ..	.. ..	5 2 ..	2 7 1	.. ..	.. ..	.. ..	.. ..	1 8	5 ..	.. 4	13 15	.. 3	.. 17	.. 13	.. ..	.. 18	.. 29

TABLE IV.—Continued.

RURAL SANITARY DISTRICTS.		Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.				Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tuber- cular Diseases.	Cancer, malign- ant Disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Griethosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.
							Typhus	Typhoid	Other continued															
Under 5., 5 upwards	2	2	..	4	2	..	..	7	..	..	5	1	1	3	..	2	6	..	11	..	..	3	..	57
Under 5., 5 upwards	3	..	2	2	3	..	..	1	1	..	7	1	2	2	1	2	3	..	21	6	1	2	4	118
Under 5., 5 upwards	..	..	1	1	1	..	..	1	..	..	1	1	..	..	..	2	1	..	12	1	7	3	..	31
Under 5., 5 upwards	..	..	1	1	..	..	..	1	..	..	1	..	..	..	1	2	1	1	7	1	7	4	..	68
Under 5., 5 upwards	..	..	1	1	..	..	..	1	..	..	1	..	..	..	1	2	1	1	7	1	7	3	..	18
Under 5., 5 upwards	..	..	1	1	..	..	..	1	..	..	1	..	..	..	1	2	1	1	7	1	7	4	..	31

TABLE V.—DEATHS and CASES NOTIFIED (or ascertained) in 132 Districts supplying Monthly Returns during the Year ending December 31st, 1903.

NOTE.—These totals do not cover the whole of the Administrative County, but only those Districts supplying Returns.

Month.	Small-pox.		Diphtheria.		Membranous Croup.		Erysipelas.		Scarlet Fever.		Fever.						Measles. (Notifiable in 5 districts.)		Chicken Pox.		Whooping Cough.		Total of preceding columns.		Deaths from				Deaths from all Causes.																																																																																																																																																																																																																																																				
	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Typhus. Notified Cases.	Typhus. Deaths.	Enteric. Notified Cases.	Enteric. Deaths.	Other or doubtful.		Pueri- peral.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.		Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. Notified Cases.	Deaths. 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* Includes deaths in Hospitals of persons not belonging to the Administrative County.

